TA-F333ESL/F770ES/F870ES

SERVICE MANUAL

AEP Model
UK Model
TA-F770ES
E Model
TA-F333ESL
Germany Model
TA-F770ES/F870ES

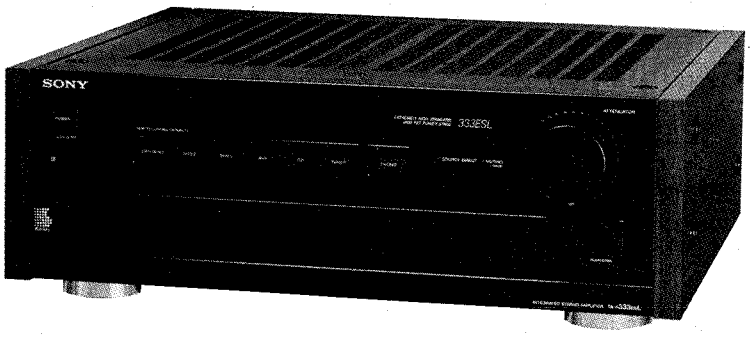

Photo: TA-F333ESL

SPECIFICATIONS

Amplifier Section

Items	Condition		Data	
			TA-F870ES	TA-F333ESL/TA-F770ES
Continuous RMS power output (both channels driven simulataneously)	4 ohms, 20 Hz – 20 kHz	Countries other than North European Countries	170 W + 170 W (THD 0.02%) (DIN: 200 W + 200 W)	140 W + 140 W (THD 0.02%) (DIN: 180 W + 180 W)
	6 ohms, 20 Hz – 20 kHz	North European countries	–	110 W + 110 W (THD 0.018%) (DIN: 130 W + 130 W)
	8 ohms, 20 Hz – 20 kHz	Countries other than North European countries	120 W + 120 W (THD 0.004%) (DIN: 135 W + 135 W)	100 W + 100 W (THD 0.015%) (DIN: 120 W + 120 W)
		North European countries	–	90 W + 90 W (THD 0.015%) (DIN: 105 W + 105 W)
Power band width (IHF)	8 ohms, THD 0.02%		10 Hz – 100 kHz at 45 W	10 Hz – 100 kHz at 45 W
Dynamic headroom ('78 IHF)	4 ohms		2 dB	2 dB
	8 ohms		1.2 dB	1.2 dB
Total harmonic distortion	8 ohms, at 10 watt output		0.003%	0.003%
Intermodulation (IM) distortion 60 Hz: 7 kHz = 4 : 1	4 ohms, at rated output		0.008%	0.008%
	6 ohms, at rated output		0.006%	0.006%
	8 ohms, at rated output		0.004%	0.004%
Damping factor	8 ohms, at 1 kHz		100	100
Residual noise	network A, 8 ohms		less than 110 μV	less than 110 μV

– Continued on next page –

MICROFILM

INTEGRATED STEREO AMPLIFIER

SONY®

Items	Condition		Data	
			TA-F870ES	TA-F333ESL/TA-F770ES
Frequency response	PHONO MM		RIAA equalization curve ± 0.2 dB	RIAA equalization curve ± 0.2 dB
	TUNER, CD, TAPE 1, 2, 3, DIRECT IN		2 Hz – 200 kHz $^{+0}_{-3}$ dB	2 Hz – 200 kHz $^{+0}_{-3}$ dB
Input sensitivity	PHONO	MC	0.17 mV (1 kohm) 0.17 mV (100 ohms)	0.17 mV (1 kohm) 0.17 mV (100 ohms)
		MM	2.5 mV, 50 kohms	2.5 mV, 50 kohms
	TUNER, CD, DIRECT IN, TAPE 1, 2, 3, ADAPTOR, AUX		150 mV, 20 kohms	150 mV, 20 kohms
S/N (network) ('78 IHF)	PHONO	MC	79 (0.5 mV)	77 (0.17 mV)
		MM	93 (5 mV)	93 (2.5 mV)
	TUNER, CD, DIRECT IN, TAPE 1, 2, 3, ADAPTOR, AUX		105 (150 mV)	105 (150 mV)
Output voltage impedance	REC OUT 1, 2, 3 ADAPTOR		150mV, 1kohm	150mV, 1kohm
	HEADPHONES		25 miliwatts (at 8 ohms) Accepts low and high impedance headphones.	25 miliwatts (at 8 ohms) Accepts low impedance headphones.
Tone controls	BASS, at 100 Hz		± 7 dB	± 7 dB
	TREBLE, at 10 kHz		± 6 dB	± 6 dB
Subsonic filter	–		6 DB/octave attenuation below 15 Hz	6 DB/octave attenuation below 15 Hz
Muting	–		– 20 dB	– 20 dB

– Continued on next page –

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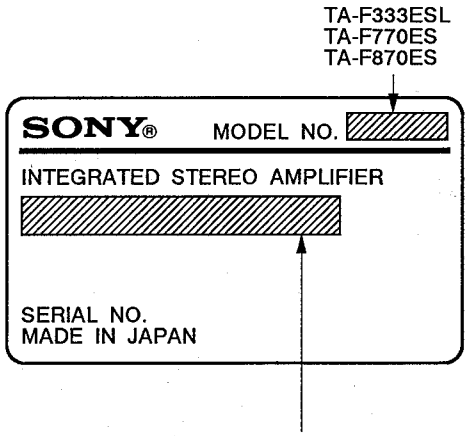
MODEL IDENTIFICATION

– Specification Labels –



AEP, Germany model: AC: 220 V ~50/60 Hz
UK model: AC: 240 V ~50/60 Hz
E model: AC: 120/220/240 V ~50/60 Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

General

System
Preamlifier section: Low-noise high gain NFB type equalizer amplifier, passive type direct tone control
Power amplifier section: Pure-complementary SEPP power amplifier,
MOS FET power transistor for final stage.

Power requirements
UK model: 240 v AC, 50 Hz
AEP, Germany model: 220 – 230 V AC, 50/60 Hz
E model: 120 V, 220 V, or 240 V AC, adjustable, 50/60 Hz

Power consumption

	TA-F870ES	TA-F333ESL TA-F770ES
UK model	–	760 W
Germany model	390 W	330W
North European model	–	260 W
European model	–	330 W
E model	–	330 W

AC outlet

	TA-F870ES	TA-F770ES
UK model	–	1 switched, 100 W max.
Germany model	1 switched 100 W max.	1 switched 100 W max.
AEP model	–	1 switched 100 W max.

Dimensions
TA-F333ESL/TA-F770ES (AEP, E, Germany model):
Approx. 470 × 165 × 435 mm (w/h/d)
(18 1/2 × 6 1/2 × 17 1/8 inches)
TA-F770ES (UK model):
Approx. 430 × 165 × 435 mm (w/h/d)
(17 × 6 1/2 × 17 1/8 inches)
TA-F870ES (Germany model):
Approx. 470 × 165 × 435 mm (w/h/d)
(18 1/2 × 6 1/2 × 17 1/8 inches)

Weight
TA-F333ESL/TA-F770ES (AEP, E, Germany model):
Approx. 21.3 kg (47 lbs) net
TA-F870ES (U. K. model):
Approx. 20 kg (44 lbs 2oz) net
TA-F870ES (Germany model)
Approx. 24 kg (53 lbs) net

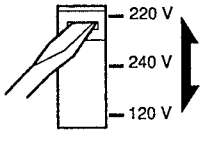
Accessories supplied
Remote commander RM-S703 (1)
Sony batteries SUM-3 (NS)
Screws (8) (except for U. K. model)

Design and specifications subject to change without notice.

Note
This appliance conforms with EEC directive 87/308/EEC regarding interference suppression.

Operating Voltage

Before connecting the unit to an AC outlet, be sure that the operating voltage of your unit is identical with that of your local power supply.

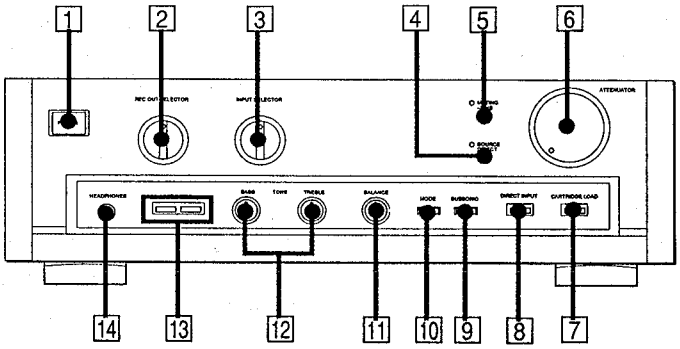
UK model	Operates on 240 V AC, 50 Hz.
AEP, Germany model	Operates on 220 – 230 V AC, 50/60 Hz.
E model 	Operates on either 120 V, 220 V, 240 V AC, adjustable, 50/60 Hz. The voltage selector is located on the rear panel. If you need to change the selector, disconnect the AC power cord and set the selector to the proper voltage of your local power supply.

This section is extracted from instruction manual.

SECTION 1
GENERAL

Function of Controls

Front panel



1 POWER switch and indicator
After the power is turned on, the standby indicator lights in red as the built-in muting circuit activates. When the amplifier stays in a stable operating condition, the indicator lights in green.
The indicator lights in red if the unit detects shorting of circuit of the speaker outputs or in case of short-circuit of the inputs of DC components. In such a case, disconnect the power source and check the connected components and speaker systems.

2 REC OUT SELECTOR
Selects the program source sent to the REC OUT jacks for recording.

3 INPUT SELECTOR
Selects the desired program source for listening.

4 SOURCE DIRECT button and indicator
Depress the button. The red indicator lights and the circuits of the TONE control, SUBSONIC filter button, BALANCE control and MODE selector are disengaged without regard to the setting of the switches.

5 MUTING button and indicator
Depress the button to reduce the sound level by 20 dB. (Output voltage becomes 1/10.)
Generally, keep the button released (OFF).

6 ATTENUATOR
Adjusts the sound level. To increase the sound level, turn the control clockwise. To decrease the level, turn the control counterclockwise.

Note
Turn down the sound level before switching on the unit. This prevents damage to speakers.

7 CARTRIDGE LOAD selector
Set the selector according to your cartridge.
MM: For moving-magnet type cartridge
MC: For moving-coil type cartridge
40 Ω: For a cartridge with an impedance of 40 ohms or more.
3 Ω: For a cartridge with an impedance of 3 ohms to 40 ohms.

8 DIRECT INPUT selector
Set to SOURCE to select program source with the INPUT SELECTOR.
To listen to a program source processed through the equipment, such as graphic equalizer, connected to the ADAPTOR jacks, set it to ADAPTOR
To listen to a program source connected to DIRECT IN jacks, set it to DIRECT.

9 SUBSONIC filter button
Depress the button to reduce noise components of less than 15 Hz, which cause modulation noise.

10 MODE selector
STEREO: For listening to a stereo program.
MONO: For listening to a monaural program.

11 BALANCE control
Adjusts the sound level of left and right speakers.

12 BASS and TREBLE TONE controls
Adjust the tone quality.
To increase bass or treble sound, turn the control clockwise. To decrease them, turn the control counterclockwise.

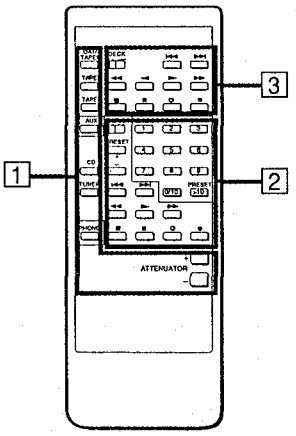
13 SPEAKERS buttons (TA-F222ESA/TA-F570ES/ TA-F670ES)
Select speaker system A or B, or both.
To drive speaker system A: Depress A button.
To drive speaker system B: Depress B button.
To drive speaker system A and B: Depress A and B.
For headphones listening only: Set both to OFF (□).
TA-F670ES only
To use power amplifier or active speaker system connected to the PRE OUT jacks, depress B/PRE OUT.

SPEAKERS selector
Select speaker system A or B, or both.
To drive speaker system A: Set the selector to A.
To drive speaker system B: Set the selector to B.
To drive speaker system A and B: Set the selector A+B.
For headphones listening only: Set the selector to OFF.
To use power amplifier or active speaker system connected to the PRE OUT jacks, set the selector to B/ PRE OUT.

14 HEADPHONES jack
Accepts the stereo phone plug of headphones.

15 Remote control sensor

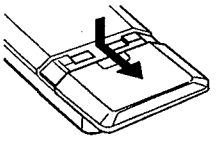
Remote Commander RM-S703



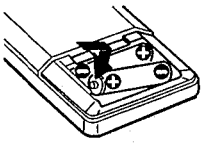
RM-S703

Installing Batteries

1



2 Two size-AA (R6) batteries



Function of Controls

1 Amplifier control section

Input selectors: Select an input source of the amplifier.
ATTENUATOR +/– buttons: Control the volume of amplifier.

2 Tuner/DAT deck/CD player control section

DAT/CD selector: Selects DAT deck or CD player.
⏮/⏭: Locates a desired selection.
◀◀/▶▶: Manual search
▶: Play
■: Stop
II: Pause
O: Record muting
●: Recording
PRESET +/– buttons: Selects a preset channel of the tuner. (only for the tuner)
Program number (1 to 0/10, and >10) and ENTER buttons: Select a preset station or track.

3 Tape deck control section

DECK A/B selector: Selects deck A or B .
⏮/⏭: Locates a desired selection.
◀/▶: Play
◀◀/▶▶: Fast winding
■: Stop
II: Pause
O: Record muting
●: Recording

Notes on Batteries

Battery life

About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries. When the batteries are exhausted, the remote commander can no longer operate the unit. If this happens, replace both batteries with new ones.

To avoid battery leakage

When the commander is not used for a long time, remove the batteries to avoid damage caused by battery leakage and corrosion.

To avoid mulfunction of the remote commander

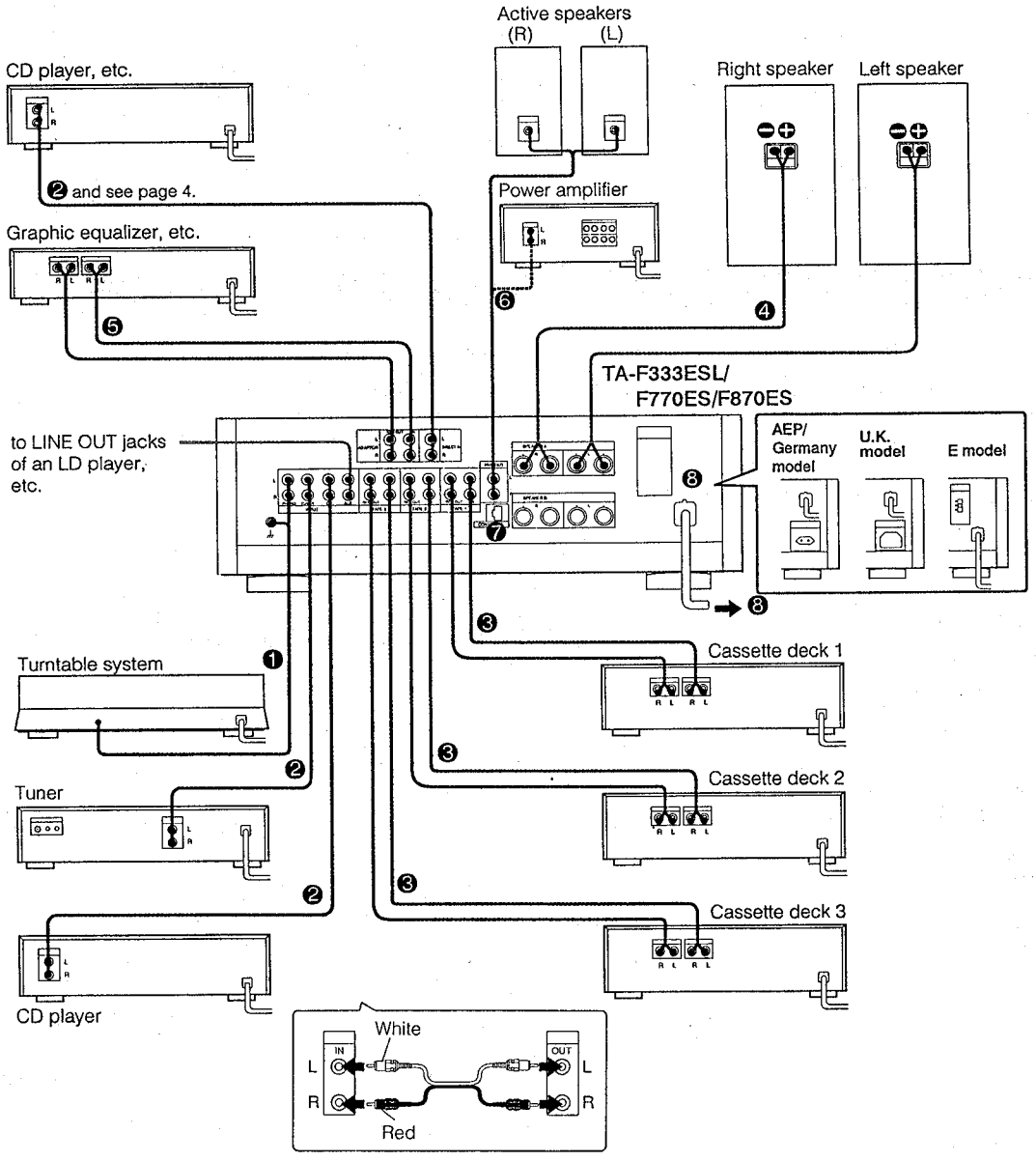
Avoid keeping the commander under extremely hot or humid locations.

System Connections

Connection Notes

- Connect the AC power cord last of all. Make sure that the power is off when making connections.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for the left channel (L).
- Insert the cable connectors fully into the jacks. A loose connection may cause hum and noise.
- Connect the + and – cords of the speaker systems correctly to the + and – terminals of the amplifier respectively.

The numbers described ● correspond to the individual connecting diagram.



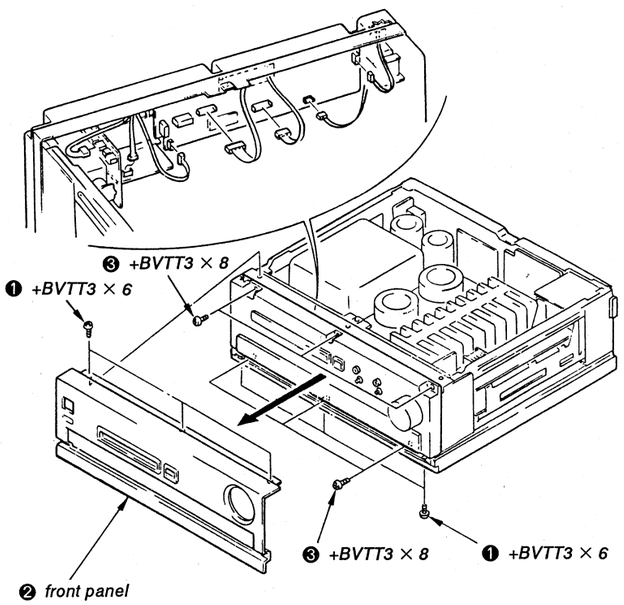
To enjoy pure sound

Connect a CD player or a tuner to the DIRECT IN jacks. DIRECT IN circuitry bypasses the INPUT SELECTOR and REC OUT SELECTOR so the signal is sent directly to the amplifier. Note that the program source input through DIRECT IN jacks cannot be processed through an adaptor nor be output through REC OUT jacks.

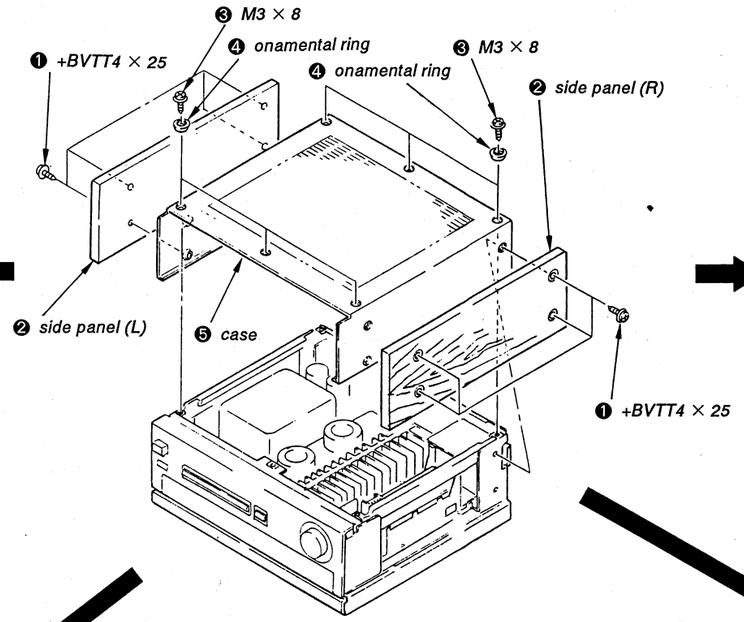
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

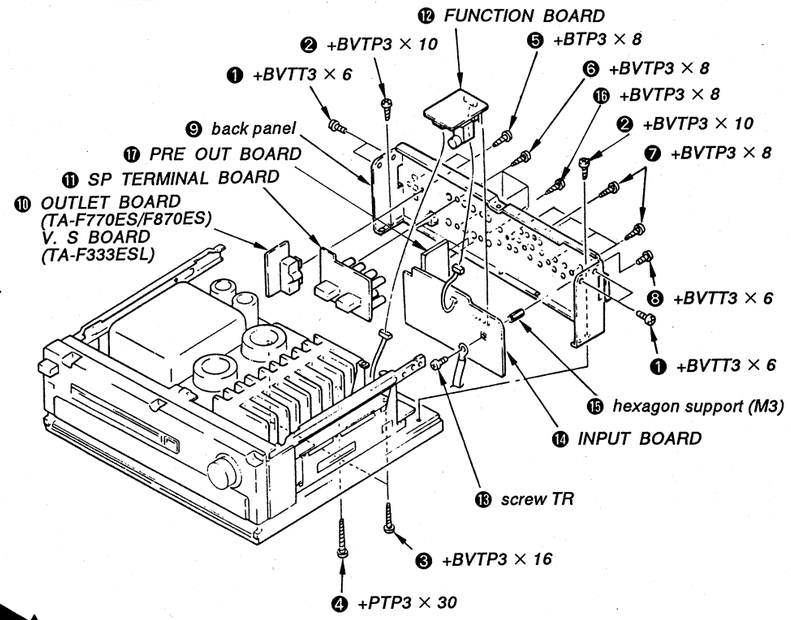
FRONT PANEL



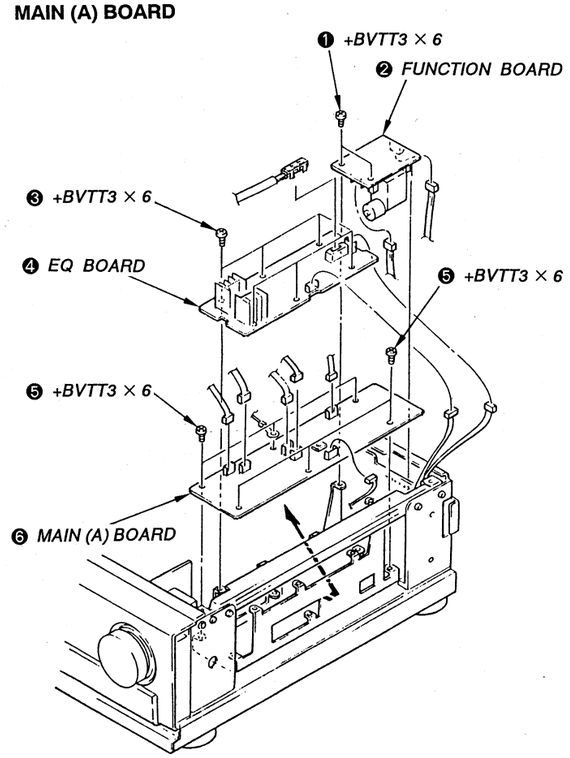
CASE



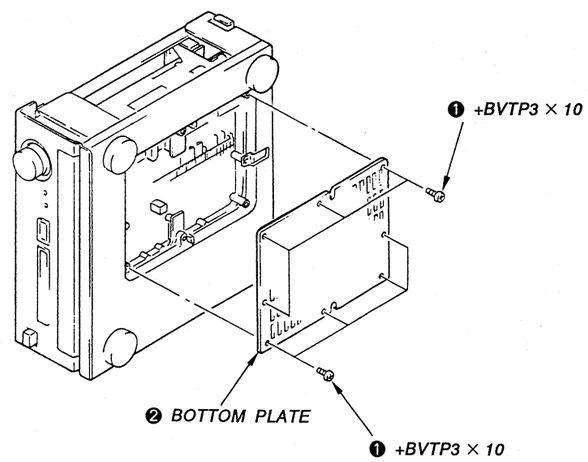
BACK PANEL


⓬ FUNCTION BOARD
❷ +BVTP3 × 10
❺ +BTP3 × 8
❶ +BVTT3 × 6
❻ +BVTP3 × 8
⓰ +BVTP3 × 8
❷ +BVTP3 × 10
❾ back panel
⓱ PRE OUT BOARD
❼ +BVTP3 × 8
⓫ SP TERMINAL BOARD
❿ OUTLET BOARD (TA-F770ES/F870ES) V. S BOARD (TA-F333ESL)
❽ +BVTT3 × 6
❶ +BVTT3 × 6
⓯ hexagon support (M3)
⓮ INPUT BOARD
⓭ screw TR
❸ +BVTP3 × 16
❹ +PTP3 × 30

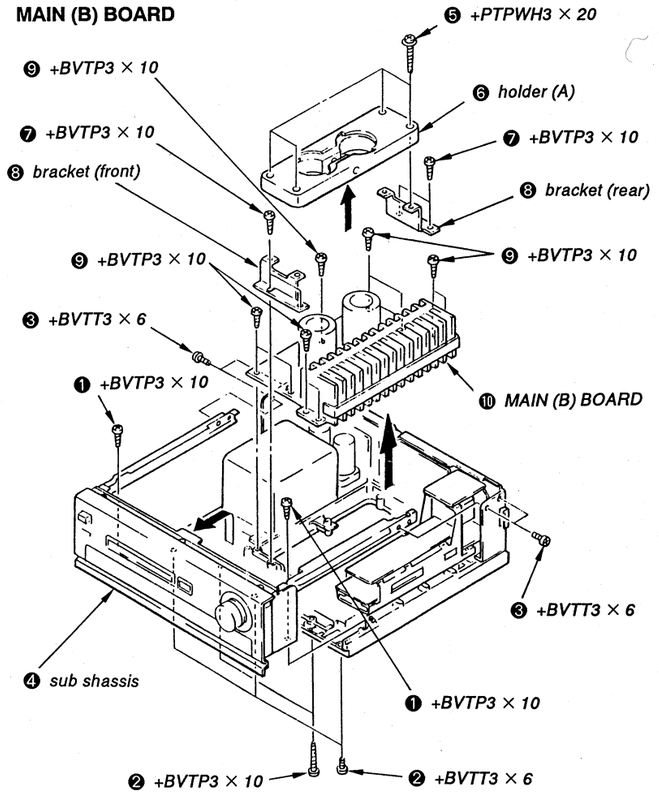
MAIN (A) BOARD



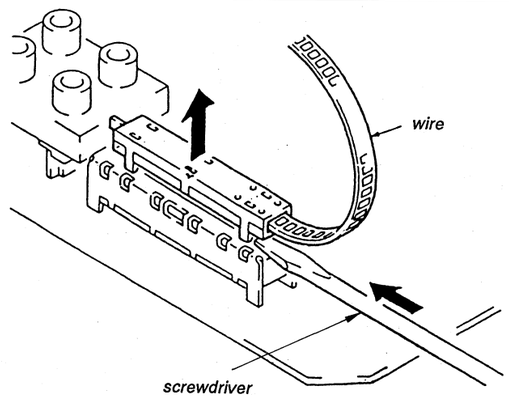
MAIN (B) BOARD CHECKING METHOD



MAIN (B) BOARD

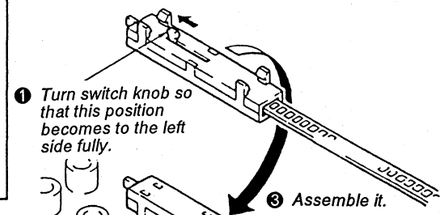


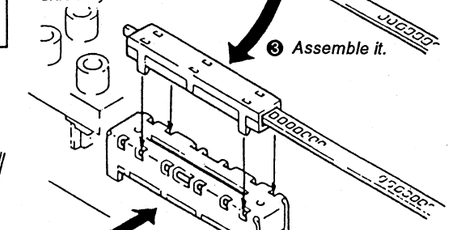
SECTION 3
SWITCH DISASSEMBLY AND ASSEMBLY



DISASSEMBLY

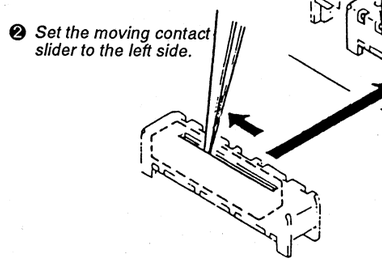
Remove by insenting screwdriver as shown in the left figure.
(Don't pull the wire. It causes malfunction.)

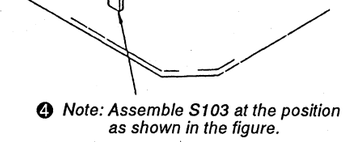




ASSEMBLY

Assemble in the numerical order given as shown in the right figure.





SECTION 4
ELECTRICAL ADJUSTMENTS

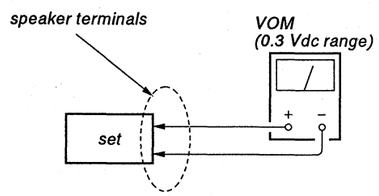
Note: adjustment should be performed 5 minutes later, after the power switch is on.

Offset Adjustment

Setting:

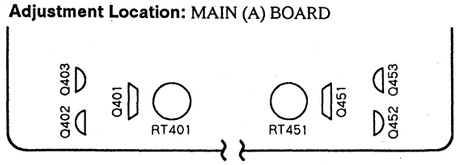
OPERATION switch: STEREO
Input signal: No signal input

Procedure:



Adjust RT401 (L-CH) and RT-451 (R-CH) for 0 V reading on the VOM.

Adjustment Location: MAIN (A) BOARD



Bias Current Adjustment

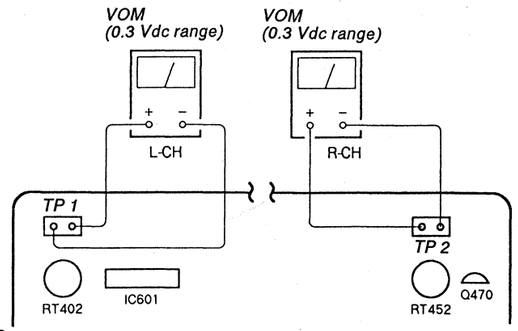
Setting:

OPERATION switch: STEREO
Input signal: No signal input

Procedure:

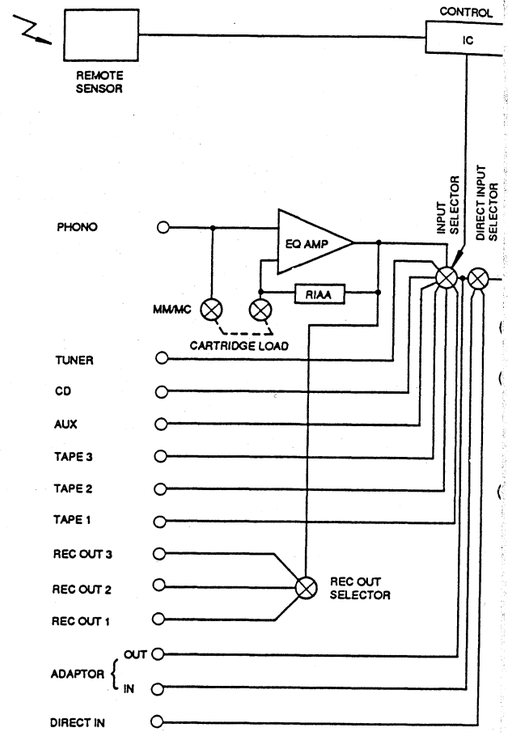
Adjust RT402 (L-CH) and RT-452 (R-CH) so that VOM reading of TP-1 (L-CH), TP-2 (R-CH) become 35 mv.

Adjustment Location: MAIN (B) BOARD

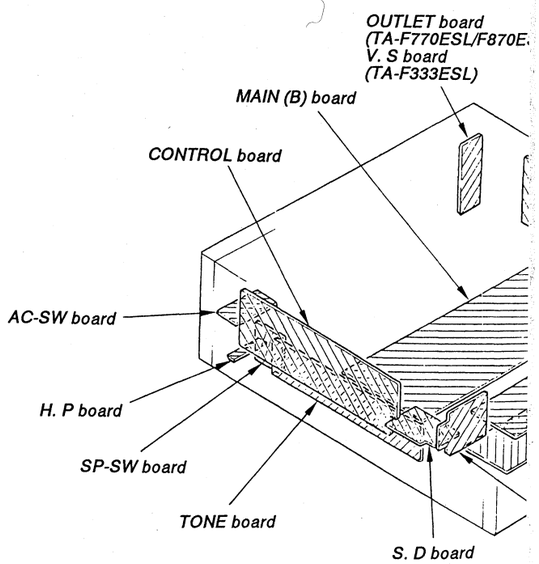


SECTI
DIAGR

5-1. BLOCK DIAGRAM



5-2. CIRCUIT BOARDS LOCATION



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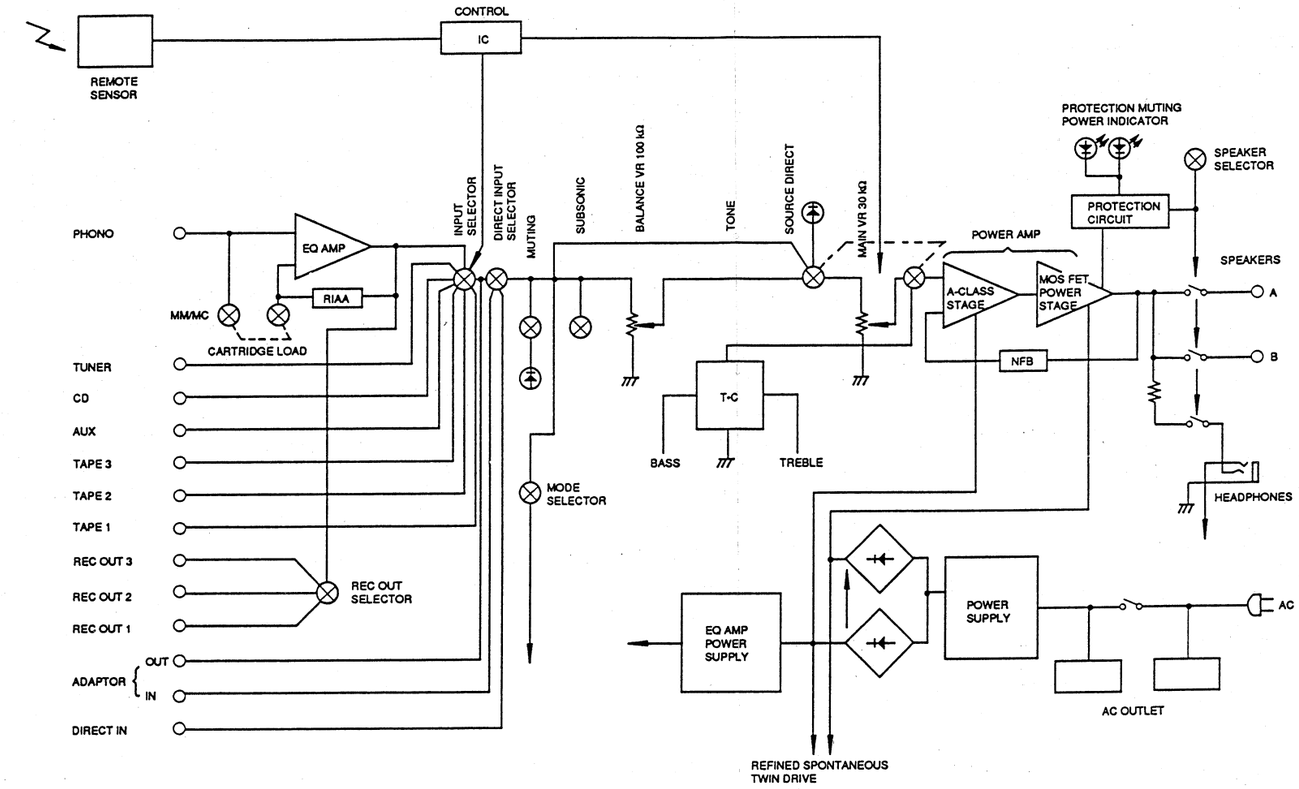
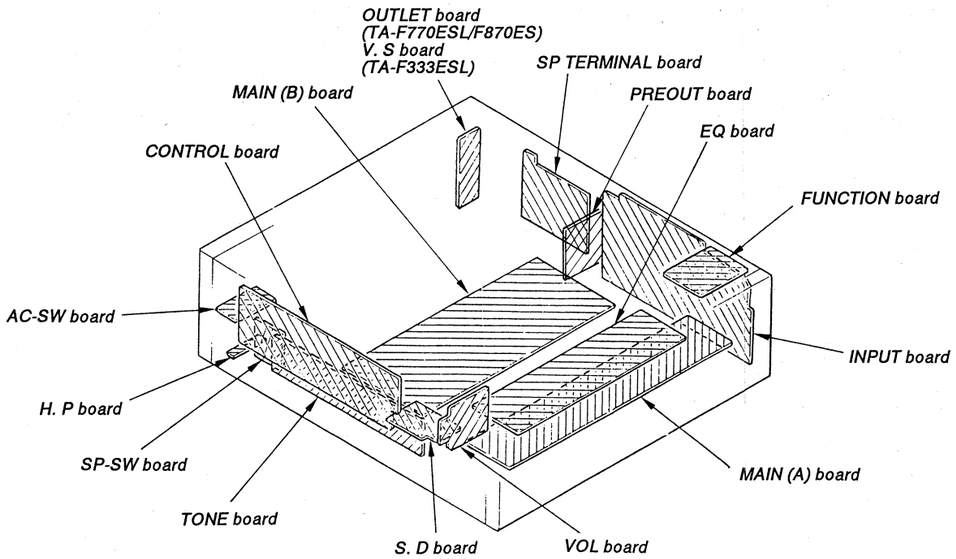
n.)

SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM



5-2. CIRCUIT BOARDS LOCATION



Note on Printed Wiring Board:

Note:

- ○——— : parts extracted from the component side.

Note on Schematic Diagram:

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- % : indicates tolerance.
- Components for right channel have same values as for left channel.
- : nonflammable resistor.
- : fusible resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B + Line.
- B− : B − Line.
- : adjustment for repair.
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : PHONO

5-3. PRINTED WIRING BOARDS

• See page 22, 23 for Semiconductor Lead Layouts and Semiconductor Location.

• See page 11 for Notes.

【FNC BOARD】

【INPUT BOARD】

【VOL BOARD】

【EQ BOARD】

【EYE BOARD】

【LED (P.L) BOARD】

【LED (VOL) BOARD】

【S.D BOARD】

【CONTROL BOARD】

【SW(F) BOARD】

【TONE BOARD】

• See page 11 for Notes.

10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

【VOL BOARD】

【LED (VOL) BOARD】

【S.D BOARD】

【EQ BOARD】

【POWER(A) BOARD】

【POWER(B) BOARD】

【TONE BOARD】

【POWER(B) BOARD】

【SP SW BOARD】

【HP BOARD】

【SP TM BOARD】

【PREOUT BOARD】

【AC SW BOARD】

【V.S BOARD】

【OUTLET BOARD】

I-637-079-

I-637-088-

I-637-089-

I-637-085-

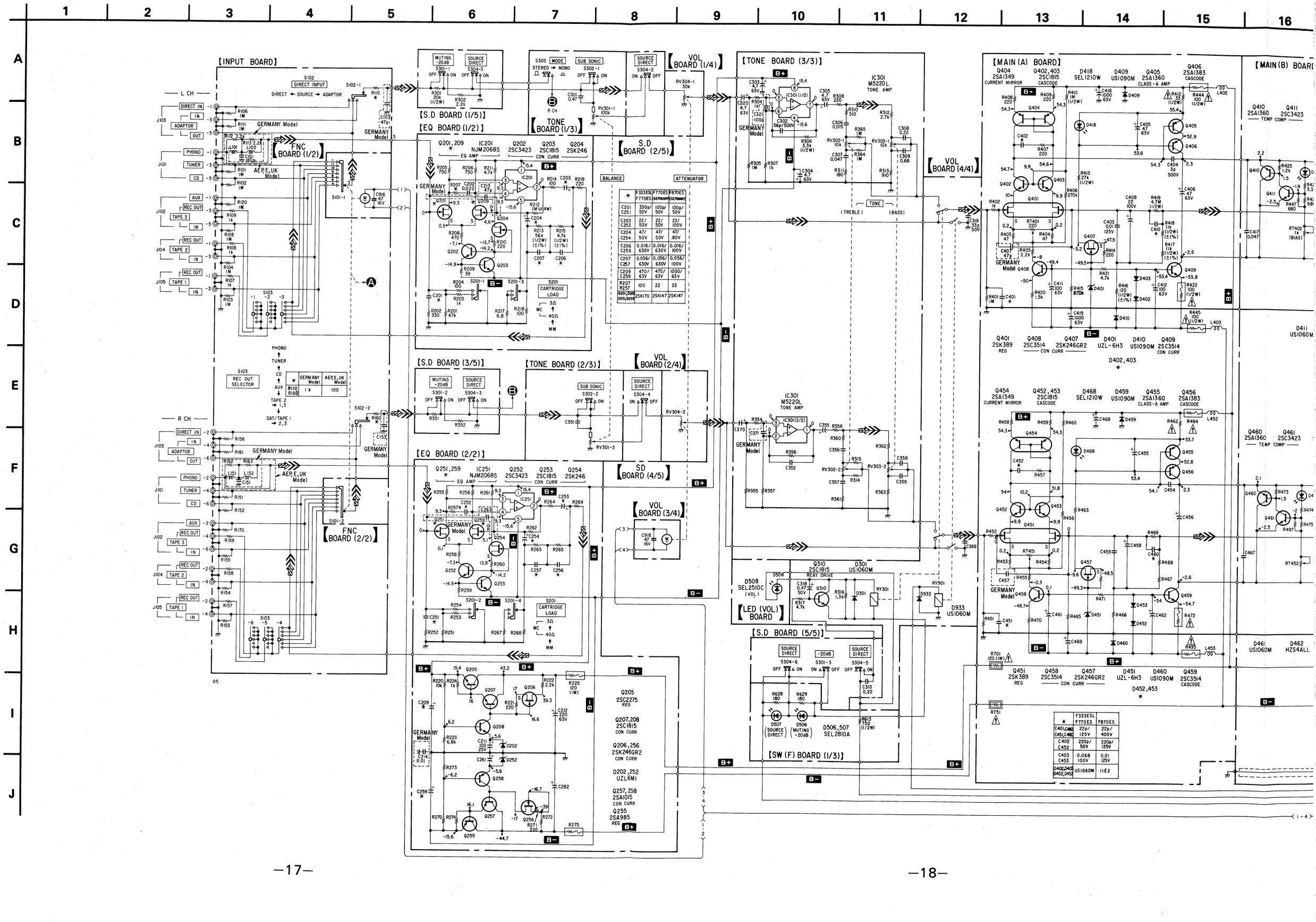
I-637-837-

I-639-110-

I-704-337-

TA-F333ESL

TA-F770ES/FB70ES



*	F333ES, F770ES	F770ES (GERMANY)	F870ES (GERMANY)
C201, C251	330p/ 50V	100p/ 50V	100p/ 50V
C203, C253	22/ 50V	22/ 50V	22/ 100V
C204, C254	47/ 50V	47/ 50V	47/ 80V
C206, C256	0.016/ 630V	0.016/ 630V	0.016/ 100V
C207, C257	0.056/ 630V	0.056/ 630V	0.056/ 100V
C209, C259	470/ 63V	470/ 63V	1000/ 63V
R207, R257	100	22	22
Q201,209 Q251,259	2SK170	2SK147	2SK147

*	GERMANY Model	AEP,E,UK Model
R110, R160	1 k	100

*	F333ESL, F770ES	F870ES
C401,C403, C451,C453	22p/ 125V	22p/ 400V
C402, C452	220p/ 50V	220p/ 125V
C403, C453	0.068 100V	0.01 125V
D402,D403, D452,D453	US1060M	11E2

【MAIN (A) BOARD】

【MAIN (B) BOARD】

【PRE OUT BOARD】

【CONTROL BOARD】

【EYE BOARD】

【SW (F) BOARD (2/3)】

【SW (F) BOARD (3/3)】

【SP TM BOARD】

【SP SW BOARD】

【HP BOARD】

【LED (P.L) BOARD】

【V.S BOARD】

【AC SW BOARD】

【AC OUTLET BOARD】

TA-F333ESL

TA-F770ES/F870ES

I-4

【MAIN (A) BOARD】

【MAIN (B) BOARD】

【VOL BOARD (4/4)】

【PRE OUT BOARD】

【CONTROL BOARD】

【EYE BOARD】

【SW (F) BOARD (2/3)】

【SW (F) BOARD (3/3)】

【SP TM BOARD】

【SP SW BOARD】

【HP BOARD】

【LED (P.L) BOARD】

【V.S BOARD】

【AC SW BOARD】

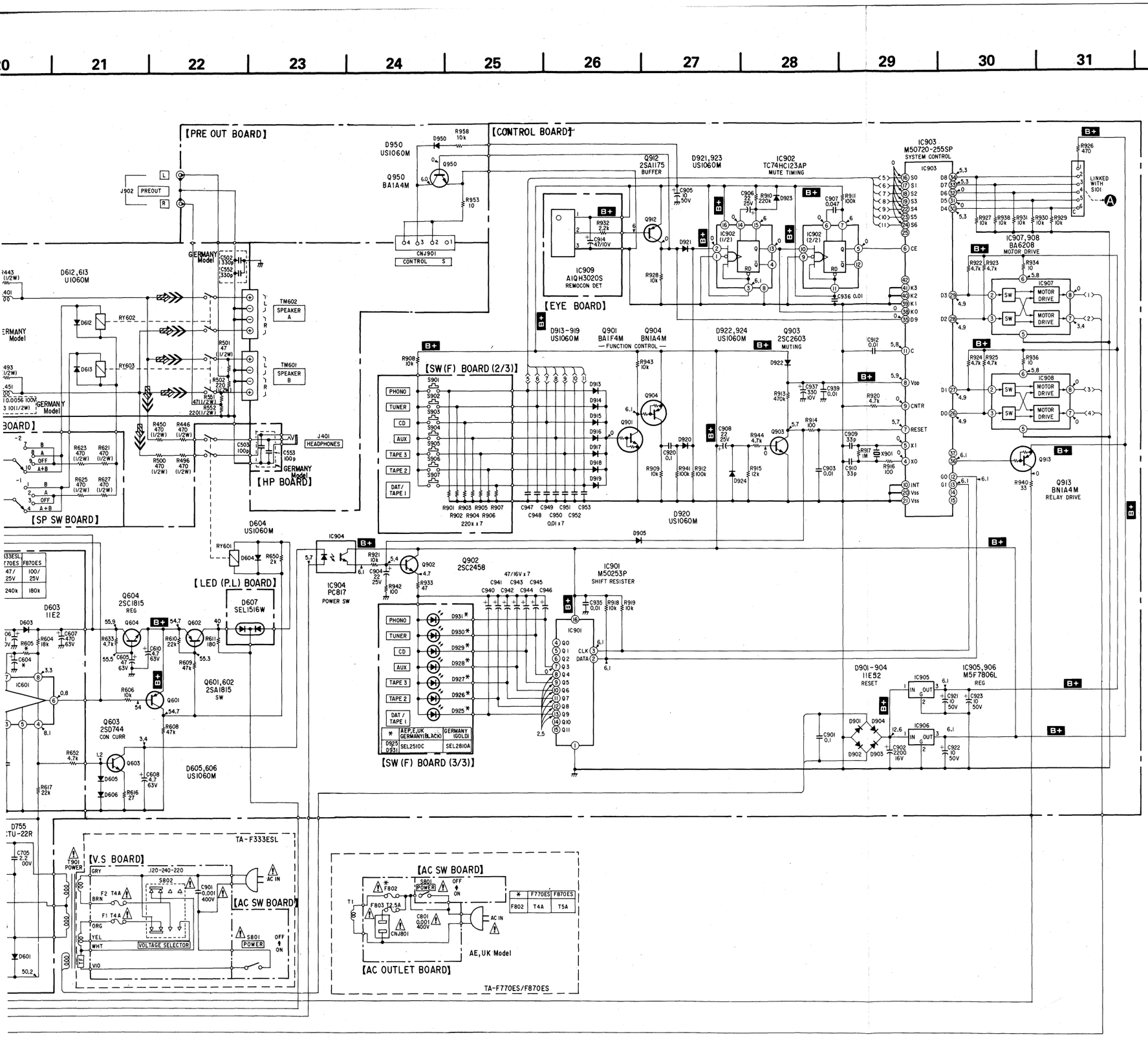
【AC OUTLET BOARD】

TA-F333ESL

TA-F770ES/F870ES

GERMANY Model

AE, UK Model

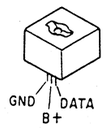

【PRE OUT BOARD】
【CONTROL BOARD】
【EYE BOARD】
【SW(F) BOARD (2/3)】
【SW (F) BOARD (3/3)】
【HP BOARD】
【SP SW BOARD】
【LED (P.L) BOARD】
【V.S BOARD】
【AC SW BOARD】
【AC OUTLET BOARD】
TA-F333ESL
TA-F770ES/F870ES
IC903 M50720-255SP SYSTEM CONTROL
IC902 TC74HC123AP MUTE TIMING
IC909 AIQH3020S REMOCON DET
IC907,908 BA6208 MOTOR DRIVE
IC904 PC817 POWER SW
IC901 M50253P SHIFT RESISTER
Q912 2SA1175 BUFFER
Q901 BA1F4M FUNCTION CONTROL
Q904 BN1A4M
Q903 2SC2603 MUTING
Q913 BN1A4M RELAY DRIVE
Q902 2SC2458
Q604 2SC1815 RE6
Q601,602 2SA1815 SW
Q603 2SD744 CON CURR
IC905,906 M5F7806L REG
D901-904 1IE52 RESET
D950 US1060M
D921,923 US1060M
D913-919 US1060M
D922,924 US1060M
D920 US1060M
D612,613 U1060M
D605,606 US1060M
D607 SEL1516W
D603 1IE2
D604 US1060M
D755 :TU-22R
D601
RY601
RY602
RY603
TM602 SPEAKER A
TM601 SPEAKER B
J902 PREOUT
J401 HEADPHONES
CNJ901 CONTROL S
CNJ801
T901 POWER
S801 POWER
S802 VOLTAGE SELECTOR
F802 F803 T2.5A
T1
AC IN
AE, UK Model
GERMANY Model
LINKED WITH SIO1
PHONO
TUNER
CD
AUX
TAPE 3
TAPE 2
DAT / TAPE I
AEP, E, UK GERMANY(BLACK)
GERMANY (GOLD)
SEL2510C
SEL2810A
F770ES F870ES
F802 T4A T5A
B+

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D202	F-19	IC601	I-28
D252	F-19	IC901	H-6
D301	C-14	IC902	H-4
D401	B-23	IC903	H-8
D402	B-22	IC904	I-5
D403	B-22	IC905	H-3
D405	K-27	IC906	H-3
D406	K-27	IC907	H-10
D408	K-27	IC908	H-10
D409	E-22	IC909	E-1
D410	E-22		
D411	K-27	Q201	C-19
D412	K-27	Q202	E-20
D415	J-27	Q203	E-19
D416	K-28	Q204	E-19
D418	C-22	Q205	H-20
D451	K-23	Q206	F-20
D452	K-22	Q207	G-20
D453	K-22	Q208	G-19
D455	A-27	Q209	D-19
D456	A-27	Q251	C-18
D458	A-27	Q252	E-18
D459	H-22	Q253	E-19
D460	H-22	Q254	E-18
D461	B-27	Q255	H-18
D462	B-27	Q256	F-18
D465	C-27	Q257	G-18
D466	A-28	Q258	G-18
D468	J-22	Q259	D-18
D506	K-11	Q310	B-15
D507	K-10	Q401	D-23
D508	E-14	Q402	C-23
D601	H-28	Q403	C-23
D602	H-28	Q404	C-23
D603	I-29	Q405	D-22
D604	G-3	Q406	D-22
D605	H-2	Q407	C-22
D606	I-2	Q408	B-23
D607	E-3	Q409	C-21
D612	E-33	Q410	I-25
D613	E-30	Q411	H-24
D701	C-28	Q414	K-24
D702	C-28	Q415	K-24
D703	C-28	Q416	H-24
D704	C-28	Q417	G-24
D705	G-28	Q418	J-24
D755	E-28	Q419	I-24
D901	G-3	Q420	K-28
D902	G-3	Q451	I-23
D903	G-3	Q452	J-23
D904	G-3	Q453	J-23
D905	H-5	Q454	K-23
D913	G-8	Q455	I-22
D914	G-9	Q456	I-22
D915	G-9	Q457	J-22
D916	G-9	Q458	K-23
D917	G-9	Q459	K-21
D918	G-10	Q460	D-25
D919	G-9	Q461	D-24
D920	G-4	Q464	A-24
D921	G-4	Q465	B-24
D922	G-7	Q466	E-24
D923	H-4	Q467	F-24
D924	G-5	Q468	C-24
D925	K-1	Q469	C-24
D926	K-2	Q470	A-28
D927	K-3	Q601	H-2
D928	K-4	Q602	H-2
D929	K-5	Q603	H-2
D930	K-6	Q604	H-2
D931	K-8	Q901	G-8
D933	B-15	Q902	H-5
D950	D-36	Q903	H-5
		Q904	G-8
IC201	D-19	Q912	H-4
IC251	D-19	Q913	G-11
IC301	J-19	Q950	E-36

• Semiconductor Lead Layouts

A1QH3020S



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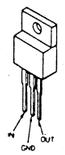

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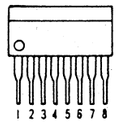

DTA114ES
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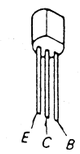
DTC124ES
2SC2603-EF

2SA988-PAFAEA
2SA1015-GR
2SC1815-BL



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2SC2275-P
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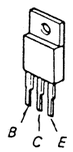

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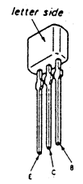
2SC2785-HFE



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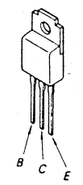

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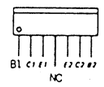

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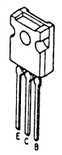

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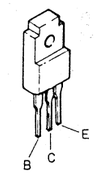

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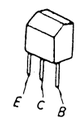

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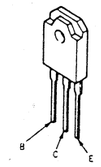
2SK1529-Y



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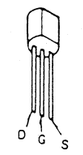

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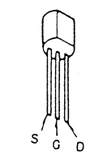

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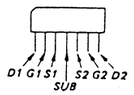
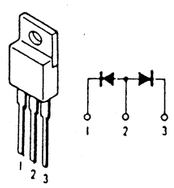


CTU-22R



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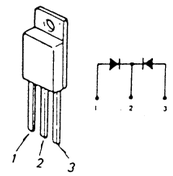
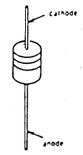


HZS6B1L
HZS6C3L
1SS120
11ES2



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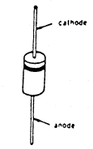

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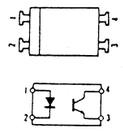
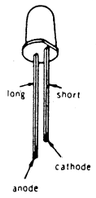


SEL1210W



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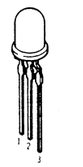
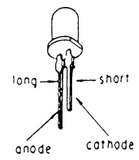


1 ANODE RED
2 CATHODE
3 ANODE GREEN

SEL2510C-D
SEL2810A

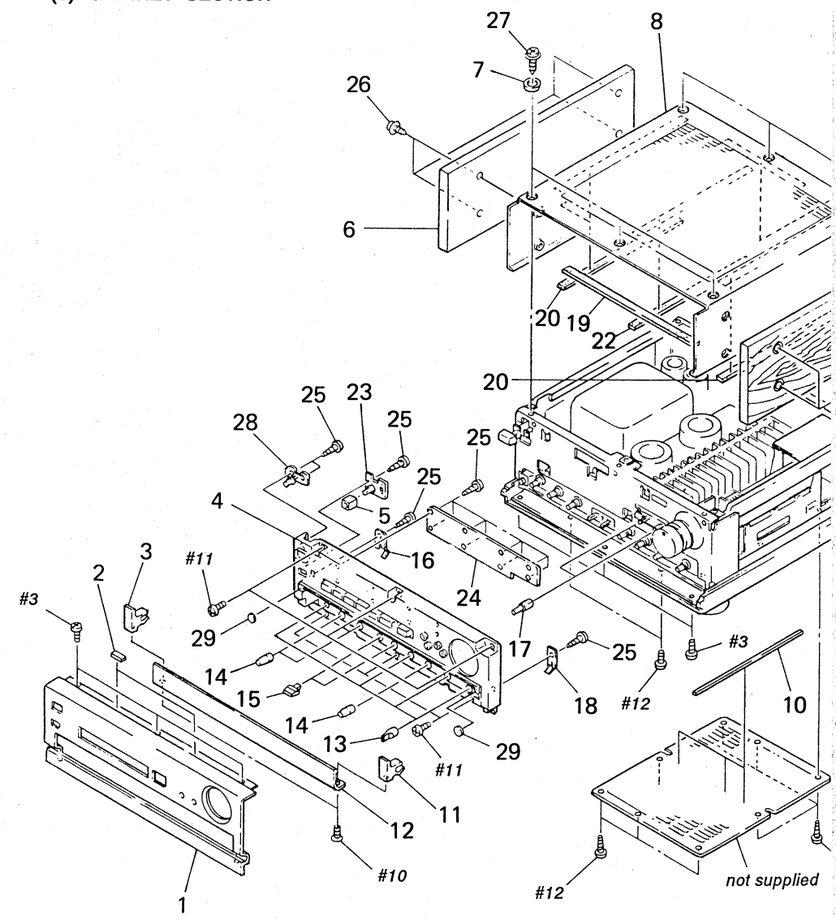


SECTION 6
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

(1) CABINET SECTION



SECTION 6
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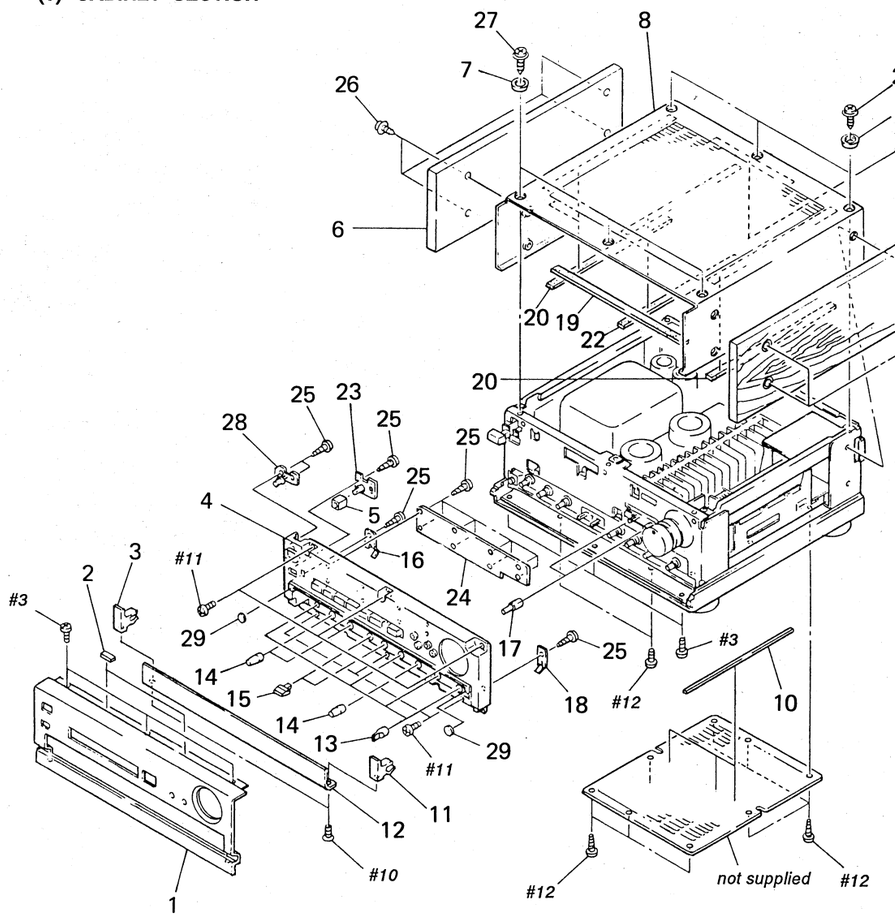
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

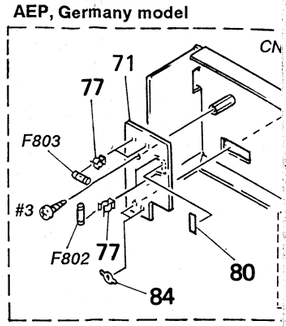
(1) CABINET SECTION

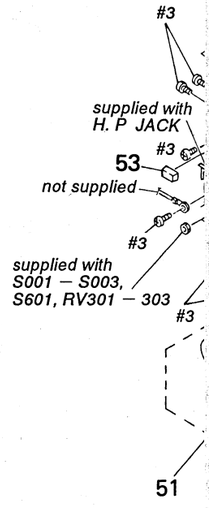


Ref. No.	Part No.	Description	Remark
1	A-4323-753-A	PANEL ASSY, FRONT (F333ESL)	
1	A-4325-074-A	PANEL ASSY, FRONT (F770ES(BLACK))	
1	A-4325-077-A	PANEL ASSY, FRONT (F770ES(GOLD))	
1	A-4325-089-A	PANEL ASSY, FRONT (F870ES(BLACK))	
1	A-4325-090-A	PANEL ASSY, FRONT (F870ES(GOLD))	
1	A-4325-233-A	PANEL ASSY, FRONT (F770ES)	
2	9-911-840-XX	CUSHION, RUBBER	
3	4-942-225-01	ARM (L) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
3	4-942-225-11	ARM (L) (F770ES(GOLD)/F870ES(GOLD))	
4	X-4941-153-1	PANEL (BASE) ASSY (F333ESL/F770ES(BLACK):AE2, UK)	
4	X-4941-820-1	PANEL ASSY, BASE (F770ES(BLACK):AE1, Germany/E870ES(BLACK))	
4	X-4941-821-1	PANEL ASSY, BASE (F770ES(GOLD)/F870ES(GOLD))	
5	4-942-566-01	COVER, LED	
6	X-4885-922-1	PANEL (L) ASSY, SIDE (F770ES(BLACK):Germany/F870ES(BLACK))	
6	X-4941-857-1	PANEL (L) ASSY, SIDE (F333ESL/F770ES(BLACK):AEP)	
6	X-4941-889-1	PANEL (L) ASSY, SIDE (F770ES(GOLD)/F870ES(GOLD))	
7	4-923-474-01	RING, ORNAMENTAL (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
7	4-928-025-21	ESCUTCHEON (TOP PLATE) (F770ES(GOLD)/F870ES(GOLD))	
8	* 4-931-944-31	CASE (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
8	* 4-931-944-51	CASE (F770ES(GOLD)/F870ES(GOLD))	
9	X-4885-823-1	PANEL (R) ASSY, SIDE (F770ES(GOLD)/F870ES(GOLD))	
9	X-4941-890-1	PANEL (R) ASSY, SIDE (F770ES(BLACK):Germany/F870ES(BLACK))	
9	X-4941-958-1	PANEL (R) ASSY, SIDE (F333ESL/F770ES(BLACK):AEP)	
10	4-916-782-11	SHEET	
11	4-942-226-01	ARM (R) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
11	4-942-226-11	ARM (R) (F770ES(GOLD)/F870ES(GOLD))	
12	X-4941-192-1	LID ASSY (E)	
12	4-946-474-01	LID (F770ES(BLACK)/F870ES(BLACK))	
12	4-946-474-11	LID (F770ES(GOLD)/F870ES(GOLD))	
13	4-942-241-01	KNOB (SQUARE) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
13	4-942-241-11	KNOB (SQUARE) (F770ES(GOLD)/F870ES(GOLD))	
14	4-942-240-01	KNOB (ROUND) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
14	4-942-240-11	KNOB (ROUND) (F770ES(GOLD)/F870ES(GOLD))	
15	4-942-228-01	KNOB (3X13) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
15	4-942-228-11	KNOB (3X13) (F770ES(GOLD)/F870ES(GOLD))	
16	* 4-942-233-01	SPRING (L), PLATE	
17	4-931-641-01	BUTTON (DIA. 4) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
17	4-931-641-11	BUTTON (DIA. 4) (F770ES(GOLD)/F870ES(GOLD))	
18	* 4-942-234-01	SPRING (R), PLATE	
19	* 4-916-782-71	DAMPER (F333ESL/F770ES)	
19	* 4-929-218-11	DAMPER (F870ES)	
20	* 4-929-217-01	CUSHION (F870ES)	
21	* 4-916-761-01	SHEET, DAMPER (F870ES)	
22	4-916-782-21	SHEET (A) (F870ES)	
23	* 1-637-092-11	LED (P.L) BOARD	
24	* 1-637-094-12	SW (F) BOARD	
25	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
26	4-847-802-00	SCREW (UK)	
26	4-885-979-11	SCREW (4X25) (AEP, E, Germany)	
27	3-704-366-01	SCREW (CASE) (M3X8) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
27	3-704-366-11	SCREW (CASE) (M3X8) (F770ES(GOLD)/F870ES(GOLD))	
28	* 1-637-095-11	EYE BOARD	
29	4-879-274-01	SPACER	

(2) FRONT CHASSIS SECTI

AEP, Germany model



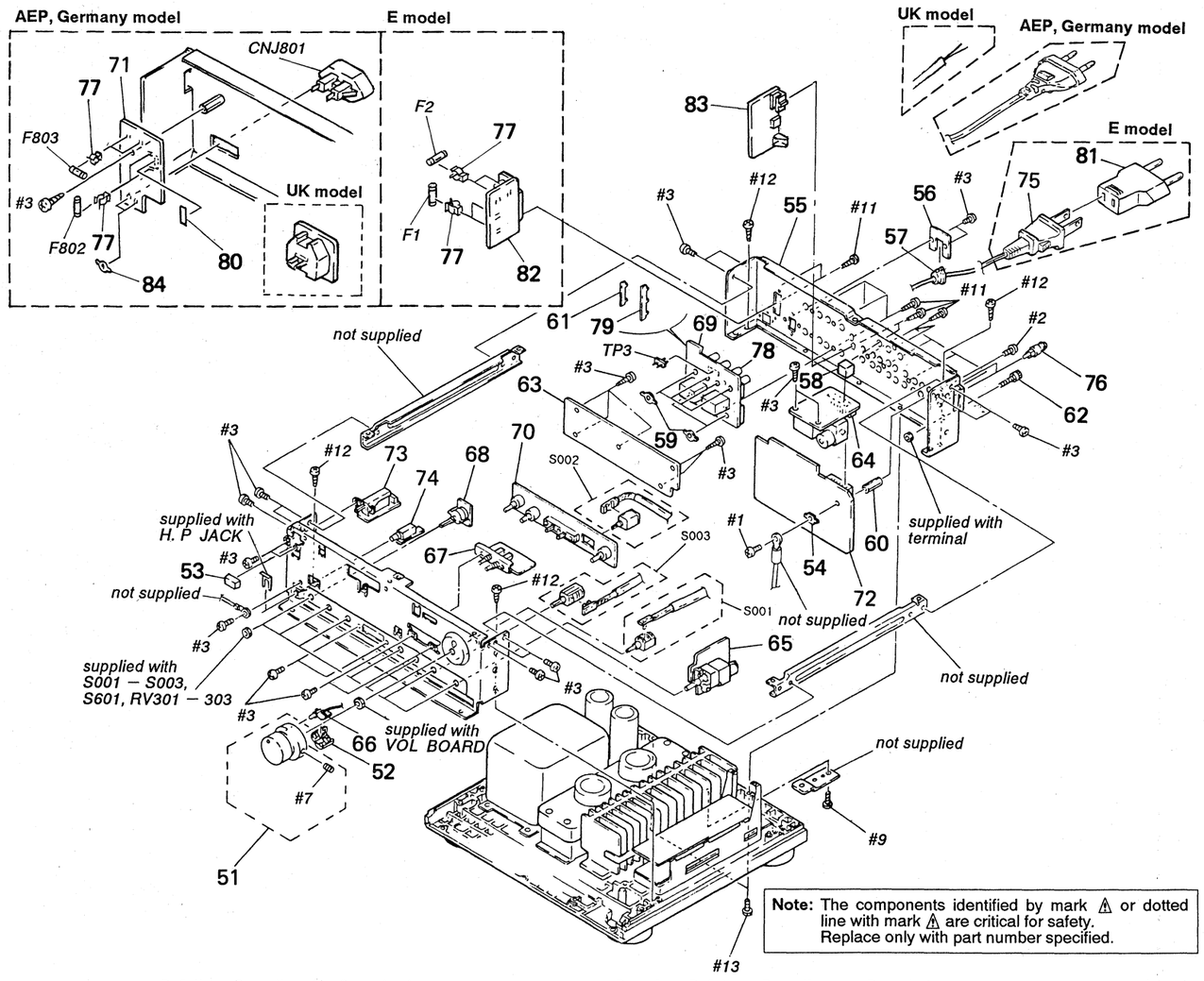


Ref. No.	Part
51	X-49
51	X-49
52	* 4-90
53	4-94
53	4-94
54	* 4-83
55	* 4-94
55	* 4-94
55	* 4-94
55	* 4-94
55	* 4-94
56	* 4-92
56	* 4-92
57	2-38
58	9-97
59	* 4-84
60	* 2-28
61	* 1-56
62	* 1-53
62	* 1-53
63	* A-4
64	* 1-63
64	* 1-63
65	* 1-63
66	* 1-63
67	* 1-63
68	* 1-63
69	* 1-63

ription	Remark
:L ASSY, FRONT (F333ESL)	
L ASSY, FRONT (F770ES(BLACK))	
L ASSY, FRONT (F770ES(GOLD))	
L ASSY, FRONT (F870ES(BLACK))	
L ASSY, FRONT (F870ES(GOLD))	
L ASSY, FRONT (F770ES)	
ION, RUBBER	
(L)	
3ESL/F770ES(BLACK)/F870ES(BLACK))	
(L) (F770ES(GOLD)/F870ES(GOLD))	
L (BASE) ASSY	
3ESL/F770ES(BLACK):AE2, UK)	
L ASSY, BASE	
ES(BLACK):AE1, Germany/E870ES(BLACK))	
L ASSY, BASE	
)ES(GOLD)/F870ES(GOLD))	
R, LED	
L (L) ASSY, SIDE	
)ES(BLACK):Germany/F870ES(BLACK))	
L (L) ASSY, SIDE	
3ESL/F770ES(BLACK):AEP)	
L (L) ASSY, SIDE	
)ES(GOLD)/F870ES(GOLD))	
ORNAMENTAL	
3ESL/F770ES(BLACK)/F870ES(BLACK))	
TCHEON (TOP PLATE)	
)ES(GOLD)/F870ES(GOLD))	
3ESL/F770ES(BLACK)/F870ES(BLACK))	
(F770ES(GOLD)/F870ES(GOLD))	
(R) ASSY, SIDE	
)ES(GOLD)/F870ES(GOLD))	
(R) ASSY, SIDE	
)ES(BLACK):Germany/F870ES(BLACK))	
(R) ASSY, SIDE	
3ESL/F770ES(BLACK):AEP)	
r	
(R)	
3ESL/F770ES(BLACK)/F870ES(BLACK))	

Ref. No.	Part No.	Description	Remark
11	4-942-226-11	ARM (R) (F770ES(GOLD)/F870ES(GOLD))	
12	X-4941-192-1	LID ASSY (E)	
12	4-946-474-01	LID (F770ES(BLACK)/F870ES(BLACK))	
12	4-946-474-11	LID (F770ES(GOLD)/F870ES(GOLD))	
13	4-942-241-01	KNOB (SQUARE) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
13	4-942-241-11	KNOB (SQUARE) (F770ES(GOLD)/F870ES(GOLD))	
14	4-942-240-01	KNOB (ROUND) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
14	4-942-240-11	KNOB (ROUND) (F770ES(GOLD)/F870ES(GOLD))	
15	4-942-228-01	KNOB (3X13) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
15	4-942-228-11	KNOB (3X13) (F770ES(GOLD)/F870ES(GOLD))	
16	* 4-942-233-01	SPRING (L), PLATE	
17	4-931-641-01	BUTTON (DIA. 4) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
17	4-931-641-11	BUTTON (DIA. 4) (F770ES(GOLD)/F870ES(GOLD))	
18	* 4-942-234-01	SPRING (R), PLATE	
19	* 4-916-782-71	DAMPER (F333ESL/F770ES)	
19	* 4-929-218-11	DAMPER (F870ES)	
20	* 4-929-217-01	CUSHION (F870ES)	
21	* 4-916-761-01	SHEET, DAMPER (F870ES)	
22	4-916-782-21	SHEET (A) (F870ES)	
23	* 1-637-092-11	LED (P.L) BOARD	
24	* 1-637-094-12	SW (F) BOARD	
25	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
26	4-847-802-00	SCREW (UK)	
26	4-885-979-11	SCREW (4X25) (AEP, E, Germany)	
27	3-704-366-01	SCREW (CASE) (M3X8) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
27	3-704-366-11	SCREW (CASE) (M3X8) (F770ES(GOLD)/F870ES(GOLD))	
28	* 1-637-095-11	EYE BOARD	
29	4-879-274-01	SPACER	

(2) FRONT CHASSIS SECTION



Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

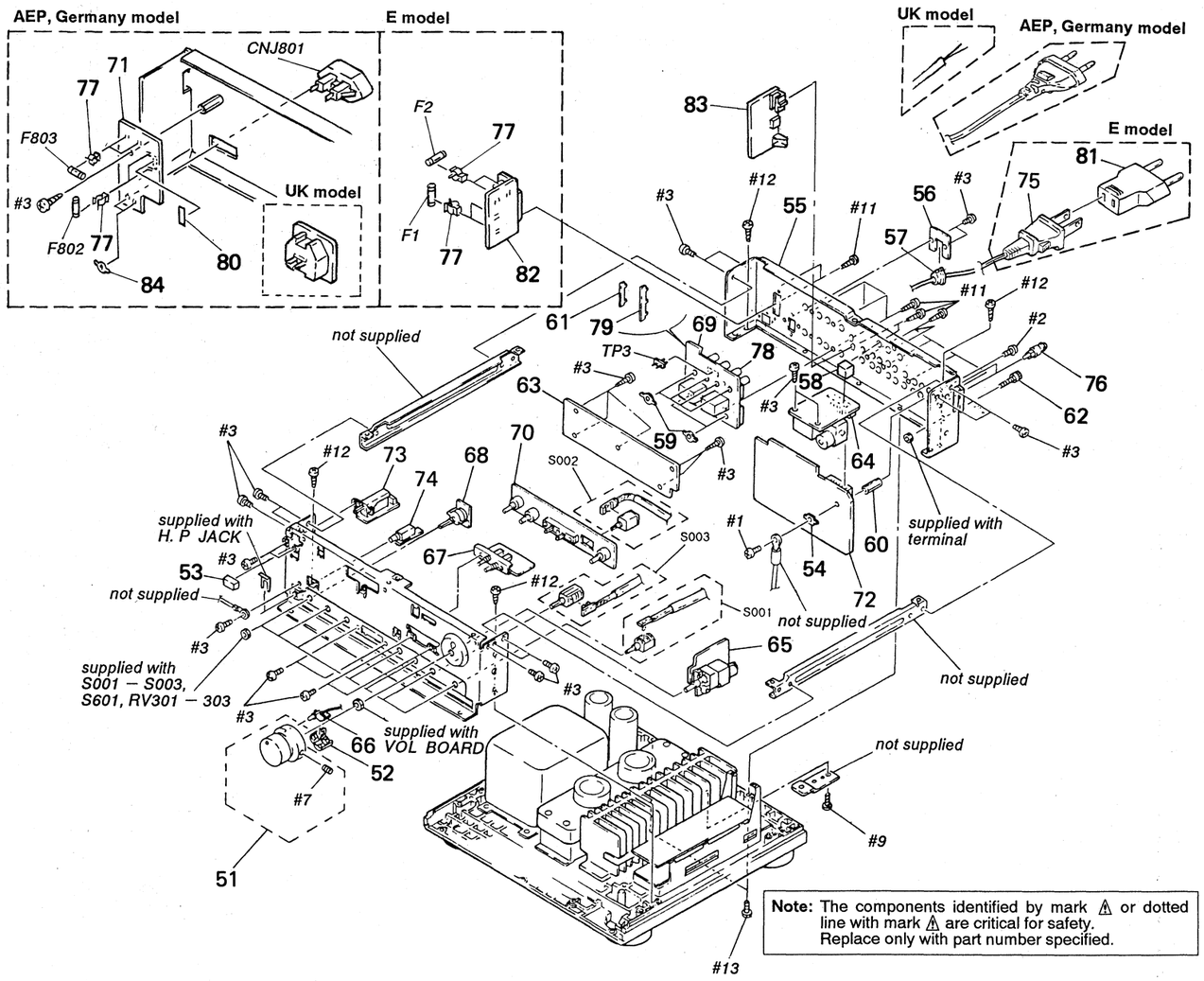
Ref. No.	Part No.	Description	Remark
51	X-4941-154-1	KNOB (DIA. 55) ASSY (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
51	X-4941-817-1	KNOB (DIA. 55) ASSY (F770ES(GOLD)/F870ES(GOLD))	
52	* 4-901-919-00	HOUSE, LED LAMP	
53	4-942-032-01	KNOB (POWER) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
53	4-942-032-11	KNOB (POWER) (F770ES(GOLD)/F870ES(GOLD))	
54	* 4-835-639-00	PLATE, GROUND	
55	* 4-945-371-01	PANEL, BACK (F770ES(BLACK):Germany)	
55	* 4-945-371-11	PANEL, BACK (UK)	
55	* 4-945-371-21	PANEL, BACK (F770ES(BLACK):AEP)	
55	* 4-945-371-31	PANEL, BACK (F770ES(GOLD)/F870ES(GOLD))	
55	* 4-945-372-01	PANEL, BACK (E)	
56	* 4-923-873-01	BRACKET, CORD STOPPER (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
56	* 4-923-873-11	BRACKET, CORD STOPPER (F770ES(GOLD)/F870ES(GOLD))	
57	2-352-626-01	BUSHING, CORD	
58	9-911-843-XX	CUSHION (TU)	
59	* 4-843-416-11	PLATE, FIXED, CAP	
60	* 2-280-622-51	SUPPORT (M3), HEXAGON	
61	* 1-560-242-61	BUS BAR 2P	
62	* 1-535-691-21	TERMINAL (F333ESL/F770ES)	
62	* 1-535-691-31	TERMINAL (F870ES)	
63	* A-4345-485-A	CONTROL BOARD, COMPLETE	
64	* 1-637-081-11	FUNCTION BOARD (F870ES)	
64	* 1-637-081-13	FUNCTION BOARD (F333ESL/F770ES)	
65	* 1-637-082-12	VOL BOARD	
66	* 1-637-084-11	LED (VOL) BOARD	
67	* 1-637-087-11	S.D BOARD	
68	* 1-637-088-12	SP-SW BOARD	
69	* 1-637-089-12	SP TERMINAL BOARD	

Ref. No.	Part No.	Description	Remark
70	* 1-637-090-12	TONE BOARD	
71	* 1-640-345-11	OUTLET BOARD (AEP, UK, Germany)	
72	* 1-637-091-12	INPUT BOARD	
73	* 1-637-085-11	AC SW BOARD	
74	* 1-637-086-11	H.P BOARD	
75	⚠1-559-272-21	CORD, POWER (UK)	
75	1-559-297-31	CODE, POWER (E)	
75	⚠1-575-953-11	CORD, POWER (AEP, Germany)	
76	⚠1-506-113-00	SHORT PLUG	
77	1-533-183-11	HOLDER, FUSE	
78	1-537-331-11	TERMINAL BOARD (SP) (Germany:F870ES)	
78	* 1-537-378-11	TERMINAL BOARD (SP) (AE1, E, UK, Germany:F770ES)	
78	* 1-537-380-11	TERMINAL BOARD (SP) (AE2)	
79	* 1-560-242-11	BUS BAR 3P	
80	3-701-947-18	LABEL, FUSE	
81	⚠1-569-007-11	ADAPTER, CONVERSION 2P (E)	
82	* 1-637-837-12	V.S BOARD (E)	
83	* 1-639-110-11	PREOUT BOARD	
84	* 4-923-814-01	PLATE, CONNECTION (AEP, UK, Germany)	
CNJ801	⚠1-526-794-11	OUTLET, AC (AEP, Germany)	
CNJ801	⚠1-526-751-00	OUTLET, AC (UK)	
F1	⚠1-532-350-00	FUSE, TIME-LAG 4A (F333ESL/F770ES)	
F2	⚠1-532-350-00	FUSE, TIME-LAG 4A (F333ESL/F770ES)	
F802	⚠1-532-299-00	FUSE, TIME-LAG 5A (F870ES)	
F802	⚠1-532-350-00	FUSE, TIME-LAG 4A (F333ESL/F770ES)	
F803	⚠1-532-286-00	FUSE, TIME-LAG 2.5A (F770ES/F870ES)	
S001	1-572-546-11	SWITCH, ROTARY SLIDE (REMOTE)	
S002	1-572-547-11	SWITCH, ROTARY SLIDE (REMOTE)	
S003	1-572-548-11	SWITCH, ROTARY SLIDE (REMOTE)	
TP3	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P	

ription	Remark
:L ASSY, FRONT (F333ESL)	
L ASSY, FRONT (F770ES(BLACK))	
L ASSY, FRONT (F770ES(GOLD))	
L ASSY, FRONT (F870ES(BLACK))	
L ASSY, FRONT (F870ES(GOLD))	
L ASSY, FRONT (F770ES)	
ION, RUBBER	
(L)	
3ESL/F770ES(BLACK)/F870ES(BLACK))	
(L) (F770ES(GOLD)/F870ES(GOLD))	
L (BASE) ASSY	
3ESL/F770ES(BLACK):AE2, UK)	
L ASSY, BASE	
ES(BLACK):AE1, Germany/E870ES(BLACK))	
L ASSY, BASE	
0ES(GOLD)/F870ES(GOLD))	
R, LED	
L (L) ASSY, SIDE	
0ES(BLACK):Germany/F870ES(BLACK))	
L (L) ASSY, SIDE	
3ESL/F770ES(BLACK):AEP)	
L (L) ASSY, SIDE	
0ES(GOLD)/F870ES(GOLD))	
ORNAMENTAL	
3ESL/F770ES(BLACK)/F870ES(BLACK))	
TCHEON (TOP PLATE)	
0ES(GOLD)/F870ES(GOLD))	
3ESL/F770ES(BLACK)/F870ES(BLACK))	
(F770ES(GOLD)/F870ES(GOLD))	
L (R) ASSY, SIDE	
0ES(GOLD)/F870ES(GOLD))	
(R) ASSY, SIDE	
0ES(GOLD)/F870ES(GOLD))	
- (R) ASSY, SIDE	
0ES(BLACK):Germany/F870ES(BLACK))	
- (R) ASSY, SIDE	
3ESL/F770ES(BLACK):AEP)	
T	
(R)	
3ESL/F770ES(BLACK)/F870ES(BLACK))	

Ref. No.	Part No.	Description	Remark
11	4-942-226-11	ARM (R) (F770ES(GOLD)/F870ES(GOLD))	
12	X-4941-192-1	LID ASSY (E)	
12	4-946-474-01	LID (F770ES(BLACK)/F870ES(BLACK))	
12	4-946-474-11	LID (F770ES(GOLD)/F870ES(GOLD))	
13	4-942-241-01	KNOB (SQUARE) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
13	4-942-241-11	KNOB (SQUARE) (F770ES(GOLD)/F870ES(GOLD))	
14	4-942-240-01	KNOB (ROUND) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
14	4-942-240-11	KNOB (ROUND) (F770ES(GOLD)/F870ES(GOLD))	
15	4-942-228-01	KNOB (3X13) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
15	4-942-228-11	KNOB (3X13) (F770ES(GOLD)/F870ES(GOLD))	
16	* 4-942-233-01	SPRING (L), PLATE	
17	4-931-641-01	BUTTON (DIA. 4) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
17	4-931-641-11	BUTTON (DIA. 4) (F770ES(GOLD)/F870ES(GOLD))	
18	* 4-942-234-01	SPRING (R), PLATE	
19	* 4-916-782-71	DAMPER (F333ESL/F770ES)	
19	* 4-929-218-11	DAMPER (F870ES)	
20	* 4-929-217-01	CUSHION (F870ES)	
21	* 4-916-761-01	SHEET, DAMPER (F870ES)	
22	4-916-782-21	SHEET (A) (F870ES)	
23	* 1-637-092-11	LED (P.L) BOARD	
24	* 1-637-094-12	SW (F) BOARD	
25	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
26	4-847-802-00	SCREW (UK)	
26	4-885-979-11	SCREW (4X25) (AEP, E, Germany)	
27	3-704-366-01	SCREW (CASE) (M3X8) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
27	3-704-366-11	SCREW (CASE) (M3X8) (F770ES(GOLD)/F870ES(GOLD))	
28	* 1-637-095-11	EYE BOARD	
29	4-879-274-01	SPACER	

(2) FRONT CHASSIS SECTION

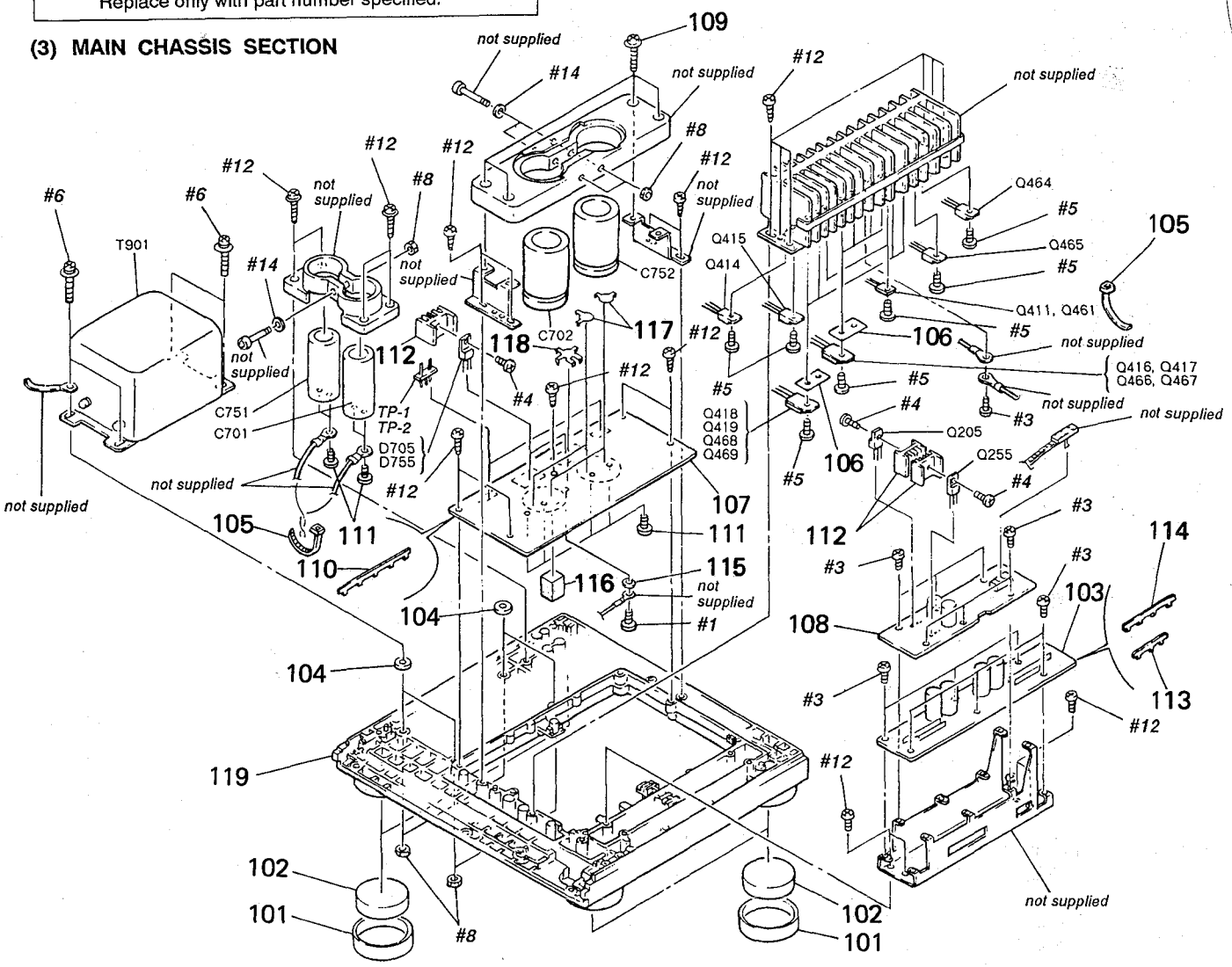


Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	X-4941-154-1	KNOB (DIA. 55) ASSY (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
51	X-4941-817-1	KNOB (DIA. 55) ASSY (F770ES(GOLD)/F870ES(GOLD))	
52	* 4-901-919-00	HOUSE, LED LAMP	
53	4-942-032-01	KNOB (POWER) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
53	4-942-032-11	KNOB (POWER) (F770ES(GOLD)/F870ES(GOLD))	
54	* 4-835-639-00	PLATE, GROUND	
55	* 4-945-371-01	PANEL, BACK (F770ES(BLACK):Germany)	
55	* 4-945-371-11	PANEL, BACK (UK)	
55	* 4-945-371-21	PANEL, BACK (F770ES(BLACK):AEP)	
55	* 4-945-371-31	PANEL, BACK (F770ES(GOLD)/F870ES(GOLD))	
55	* 4-945-372-01	PANEL, BACK (E)	
56	* 4-923-873-01	BRACKET, CORD STOPPER (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
56	* 4-923-873-11	BRACKET, CORD STOPPER (F770ES(GOLD)/F870ES(GOLD))	
57	2-352-626-01	BUSHING, CORD	
58	9-911-843-XX	CUSHION (TU)	
59	* 4-843-416-11	PLATE, FIXED, CAP	
60	* 2-280-622-51	SUPPORT (M3), HEXAGON	
61	* 1-560-242-61	BUS BAR 2P	
62	* 1-535-691-21	TERMINAL (F333ESL/F770ES)	
62	* 1-535-691-31	TERMINAL (F870ES)	
63	* A-4345-485-A	CONTROL BOARD, COMPLETE	
64	* 1-637-081-11	FUNCTION BOARD (F870ES)	
64	* 1-637-081-13	FUNCTION BOARD (F333ESL/F770ES)	
65	* 1-637-082-12	VOL BOARD	
66	* 1-637-084-11	LED (VOL) BOARD	
67	* 1-637-087-11	S.D BOARD	
68	* 1-637-088-12	SP-SW BOARD	
69	* 1-637-089-12	SP TERMINAL BOARD	
70	* 1-637-090-12	TONE BOARD	
71	* 1-640-345-11	OUTLET BOARD (AEP, UK, Germany)	
72	* 1-637-091-12	INPUT BOARD	
73	* 1-637-085-11	AC SW BOARD	
74	* 1-637-086-11	H.P BOARD	
75	⚠1-559-272-21	CORD, POWER (UK)	
75	1-559-297-31	CODE, POWER (E)	
75	⚠1-575-953-11	CORD, POWER (AEP, Germany)	
76	⚠1-506-113-00	SHORT PLUG	
77	1-533-183-11	HOLDER, FUSE	
78	1-537-331-11	TERMINAL BOARD (SP) (Germany:F870ES)	
78	* 1-537-378-11	TERMINAL BOARD (SP) (AE1, E, UK, Germany:F770ES)	
78	* 1-537-380-11	TERMINAL BOARD (SP) (AE2)	
79	* 1-560-242-11	BUS BAR 3P	
80	3-701-947-18	LABEL, FUSE	
81	⚠1-569-007-11	ADAPTER, CONVERSION 2P (E)	
82	* 1-637-837-12	V.S BOARD (E)	
83	* 1-639-110-11	PREOUT BOARD	
84	* 4-923-814-01	PLATE, CONNECTION (AEP, UK, Germany)	
CNJ801	⚠1-526-794-11	OUTLET, AC (AEP, Germany)	
CNJ801	⚠1-526-751-00	OUTLET, AC (UK)	
F1	⚠1-532-350-00	FUSE, TIME-LAG 4A (F333ESL/F770ES)	
F2	⚠1-532-350-00	FUSE, TIME-LAG 4A (F333ESL/F770ES)	
F802	⚠1-532-299-00	FUSE, TIME-LAG 5A (F870ES)	
F802	⚠1-532-350-00	FUSE, TIME-LAG 4A (F333ESL/F770ES)	
F803	⚠1-532-286-00	FUSE, TIME-LAG 2.5A (F770ES/F870ES)	
S001	1-572-546-11	SWITCH, ROTARY SLIDE (REMOTE)	
S002	1-572-547-11	SWITCH, ROTARY SLIDE (REMOTE)	
S003	1-572-548-11	SWITCH, ROTARY SLIDE (REMOTE)	
TP3	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(3) MAIN CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
101	4-931-966-11	RING, ORNAMENTAL (F870ES(GOLD))	
101	4-931-967-02	RING, ORNAMENTAL (F333ESL/F770ES(BLACK))	
101	4-931-967-21	RING, ORNAMENTAL (F770ES(GOLD))	
101	9-910-999-33	RING, ORNAMENTAL (F870ES(BLACK))	
102	4-908-888-01	FOOT, TUNING (F333ESL/F770ES)	
102	4-908-888-11	FOOT, TUNING (F870ES)	
103	* A-4345-325-A	MAIN (A) BOARD, COMPLETE (E333ESL/F770ES:AEP, UK)	
103	* A-4345-331-A	MAIN (A) BOARD, COMPLETE (F770ES:Germany)	
103	* A-4345-358-A	MAIN (A) BOARD, COMPLETE (F870ES)	
104	4-931-976-01	WASHER (BS)	
105	3-655-653-21	BAND (TAITON), BINDING	
106	4-901-949-01	SHEET, INSULATING	
107	* A-4345-326-A	MAIN (B) BOARD, COMPLETE (E333ESL/F770ES:AEP, UK)	
107	A-4345-332-A	MAIN (B) BOARD, COMPLETE(F770ES:Germany)	
107	* A-4345-359-A	MAIN (B) BOARD, COMPLETE (F870ES)	
108	* A-4345-327-A	EQ BOARD, COMPLETE (E333ESL/F770ES:AEP, UK)	
108	* A-4345-333-A	EQ BOARD, COMPLETE(F770ES:Germany)	
108	* A-4345-360-A	EQ BOARD, COMPLETE (F870ES)	
109	4-921-437-01	SCREW (M3X20), TAPPING	
110	* 1-560-242-31	BUS BAR 5P	
111	* 4-931-964-01	SCREW (M4X6)	
112	* 4-921-402-01	HEAT SINK	
113	* 1-560-242-11	BUS BAR 3P	
114	* 1-560-242-21	BUS BAR 4P	
115	4-309-378-00	WASHER	
116	* 4-931-970-01	CUSHION	
117	* 3-346-266-21	PLATE, GROUND	
118	* 4-916-791-01	PLATE, GROUND, 5P	
119	X-4941-233-1	CHASSIS ASSY (F333ESL/F770ES)	
119	X-4941-234-1	CHASSIS ASSY (F870ES)	

Ref. No.	Part No.	Description	Remark
C701	1-125-653-11	CAP, ELECT 8200MF (F870ES)	
C701	1-125-654-11	CAP, ELECT 8200MF (F333ESL/F770ES)	
C702	1-125-655-11	CAP, ELECT 22000MF (F870ES)	
C702	1-125-656-11	CAP, ELECT 18000MF (F333ESL/F770ES)	
C751	1-125-653-11	CAP, ELECT 8200MF (F870ES)	
C751	1-125-654-11	CAP, ELECT 8200MF (F333ESL/F770ES)	
C752	1-125-656-11	CAP, ELECT 18000MF (F333ESL/F770ES)	
C752	1-125-655-11	CAP, ELECT 22000MF (F870ES)	
D705	8-719-300-27	DIODE CTU-22S	
D755	8-719-300-25	DIODE CTU-22R	
Q205	8-729-127-53	TRANSISTOR 2SC2275-P	
Q255	8-729-141-10	TRANSISTOR 2SA985-P	
Q411	8-729-203-45	TRANSISTOR 2SC3423-O	
Q414	8-729-208-72	TRANSISTOR 2SD1763A	
Q415	8-729-208-38	TRANSISTOR 2SA1306A-O	
Q416	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q417	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q418	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q419	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q461	8-729-203-45	TRANSISTOR 2SC3423-O	
Q464	8-729-208-72	TRANSISTOR 2SD1763A	
Q465	8-729-208-38	TRANSISTOR 2SA1306A-O	
Q466	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q467	8-729-232-45	TRANSISTOR 2SK1529-Y	
Q468	8-729-232-46	TRANSISTOR 2SJ200-Y	
Q469	8-729-232-46	TRANSISTOR 2SJ200-Y	
T901	⚠1-450-485-11	TRANSFORMER, POWER (UK)	
T901	⚠1-450-486-11	TRANSFORMER, POWER (F333ESL)	
T901	⚠1-450-487-11	TRANSFORMER, POWER (AE1, Germany:F770ES)	
T901	⚠1-450-488-11	TRANSFORMER, POWER (AE2, AEP:F770ES)	
T901	⚠1-450-489-11	TRANSFORMER, POWER (Germany:F870ES)	
TP1	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P (F870ES)	
TP2	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P (F870ES)	

SECTION 7
ELECTRICAL PARTS LIST

MAIN (A)

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When including parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remark
	* A-4345-325-A	MAIN (A) BOARD, COMPLETE ********** (F333ESL/F770ES:AEP, UK)	
	* A-4345-331-A	MAIN (A) BOARD, COMPLETE(F770ES:Germany) **********	
	* A-4345-358-A	MAIN (A) BOARD, COMPLETE (F870ES) **********	
	* 1-560-242-11	BUS BAR 3P	
	* 1-560-242-21	BUS BAR 4P	
		〈 CAPACITOR 〉	
C401	1-104-321-11	POLYSTYRENE 22PF 10%	400V(F870ES)
C401	1-104-327-11	POLYSTYRENE 22PF 10% (F333ESL/F770ES)	125V
C402	1-104-233-00	POLYSTYRENE 220PF 10%	125V(F870ES)
C402	1-104-286-11	POLYSTYRENE 220PF 5% (F333ESL/F770ES)	50V
C403	1-104-319-11	POLYSTYRENE 10000PF 10%	125V(F870ES)
C403	1-137-337-21	FILM 0.068uF 2%	100V(F333ESL/F770ES)
C404	1-107-044-00	MICA 3.3PF	500V
C405	1-124-918-11	ELECT 47uF 20%	63V
C406	1-124-918-11	ELECT 47uF 20%	63V
C407	1-104-274-11	POLYSTYRENE 47PF 10% (F770ES:Germany/F870ES)	50V
C408	1-124-748-11	ELECT 22uF 20%	100V
C410	1-104-321-11	POLYSTYRENE 22PF 10%	400V(F870ES)
C410	1-104-327-11	POLYSTYRENE 22PF 10% (F333ESL/F770ES)	125V
C411	1-124-130-00	ELECT 100uF 20%	63V
C412	1-124-130-00	ELECT 100uF 20%	63V
C418	1-124-922-11	ELECT 1000uF 20%	63V
C419	1-124-922-11	ELECT 1000uF 20%	63V
C451	1-104-321-11	POLYSTYRENE 22PF 10%	400V(F870ES)
C451	1-104-327-11	POLYSTYRENE 22PF 10% (F333ESL/F770ES)	125V
C452	1-104-233-00	POLYSTYRENE 220PF 10%	125V(F870ES)
C452	1-104-286-11	POLYSTYRENE 220PF 5% (F333ESL/F770ES)	50V
C453	1-104-319-11	POLYSTYRENE 10000PF 10%	125V(F870ES)
C453	1-137-337-21	FILM 0.068uF 2%	100V(F333ESL/F770ES)
C454	1-107-044-00	MICA 3.3PF	500V
C455	1-124-918-11	ELECT 47uF 20%	63V
C456	1-124-918-11	ELECT 47uF 20%	63V
C457	1-104-274-11	POLYSTYRENE 47PF 10% (F770ES:Germany/F870ES)	50V
C458	1-124-748-11	ELECT 22uF 20%	100V
C460	1-104-321-11	POLYSTYRENE 22PF 10%	400V(F870ES)
C460	1-104-327-11	POLYSTYRENE 22PF 10% (F333ESL/F770ES)	125V
C461	1-124-130-00	ELECT 100uF 20%	63V
C462	1-124-130-00	ELECT 100uF 20%	63V
C468	1-124-922-11	ELECT 1000uF 20%	63V
C469	1-124-922-11	ELECT 1000uF 20%	63V
		〈 DIODE 〉	
D401	8-719-933-41	DIODE HZS6C3L	
D402	8-719-200-82	DIODE 11ES2 (F870ES)	
D402	8-719-912-20	DIODE 1SS120 (F333ESL/F770ES)	
D403	8-719-200-82	DIODE 11ES2 (F870ES)	
D403	8-719-912-20	DIODE 1SS120 (F333ESL/F770ES)	
D409	8-719-815-85	DIODE 1S1585	
D410	8-719-815-85	DIODE 1S1585	
D418	8-719-303-13	DIODE SEL1210W	
D451	8-719-933-41	DIODE HZS6C3L	
D452	8-719-200-82	DIODE 11ES2 (F870ES)	
D452	8-719-912-20	DIODE 1SS120 (F333ESL/F770ES)	
D453	8-719-200-82	DIODE 11ES2 (F870ES)	
D453	8-719-912-20	DIODE 1SS120 (F333ESL/F770ES)	
D459	8-719-815-85	DIODE 1S1585	
D460	8-719-815-85	DIODE 1S1585	
D468	8-719-303-13	DIODE SEL1210W	
		〈 CONNECTOR 〉	
EH15	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH21	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH22	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH23	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH24	* 1-564-508-11	PLUG, CONNECTOR 5P	

Ref.No.	Part No.	Description	Remark
		〈 COIL 〉	
L402	* 1-428-203-11	COIL, AIR-CORE	
L403	* 1-428-203-11	COIL, AIR-CORE	
L452	* 1-428-203-11	COIL, AIR-CORE	
L453	* 1-428-203-11	COIL, AIR-CORE	
		〈 TRANSISTOR 〉	
Q401	8-729-203-21	TRANSISTOR 2SK389-GR	
Q402	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q403	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q404	8-729-232-00	TRANSISTOR 2SA1349-GRBL	
Q405	8-729-209-17	TRANSISTOR 2SA1360-O	
Q406	8-729-104-91	TRANSISTOR 2SA1383	
Q407	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q408	8-729-104-18	TRANSISTOR 2SC3514	
Q409	8-729-104-18	TRANSISTOR 2SC3514	
Q451	8-729-203-21	TRANSISTOR 2SK389-GR	
Q452	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q453	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q454	8-729-232-00	TRANSISTOR 2SA1349-GRBL	
Q455	8-729-209-17	TRANSISTOR 2SA1360-O	
Q456	8-729-104-91	TRANSISTOR 2SA1383	
Q457	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q458	8-729-104-18	TRANSISTOR 2SC3514	
Q459	8-729-104-18	TRANSISTOR 2SC3514	
		〈 RESISTOR 〉	
R401	1-246-545-00	CARBON 1.0M 5% 1/4W	
R402	1-247-713-11	CARBON 1K 5% 1/4W	
R403	1-249-520-11	CARBON 47 5% 1/4W	
R404	1-249-520-11	CARBON 47 5% 1/4W	
R405	1-247-717-11	CARBON 2.2K 5% 1/4W	
R406	1-246-531-00	CARBON 270K 5% 1/4W	
R407	1-247-704-11	CARBON 220 5% 1/4W	
R408	1-219-030-11	FUSIBLE 220 5% 1/2W	
R409	1-219-030-11	FUSIBLE 220 5% 1/2W	
R410	1-214-937-00	METAL 1M 1% 1/2W	
R412	1-219-010-11	FUSIBLE 33 5% 1/2W	
R413	1-249-490-11	CARBON 27K 5% 1/2W	
R414	1-247-704-11	CARBON 220 5% 1/4W	
R415	1-246-531-00	CARBON 270K 5% 1/4W	
R416	1-247-740-11	CARBON 120 5% 1/2W	(F333ESL/F770ES)
R416	1-259-533-11	CARBON 120 1% 1/2W	(F870ES)
R417	1-259-580-11	CARBON 11K 5% 1/2W	
R418	1-259-580-11	CARBON 11K 5% 1/2W	
R419	1-259-503-11	CARBON 4.7M 5% 1/2W	
R420	1-249-556-11	CARBON 1.5K 5% 1/4W	
R421	1-247-721-11	CARBON 4.7K 5% 1/4W	
R422	1-219-022-11	FUSIBLE 100 5% 1/2W	
R444	1-219-022-11	FUSIBLE 100 5% 1/2W	
R445	1-219-022-11	FUSIBLE 100 5% 1/2W	
R451	1-246-545-00	CARBON 1.0M 5% 1/4W	
R452	1-247-713-11	CARBON 1K 5% 1/4W	
R453	1-249-520-11	CARBON 47 5% 1/4W	
R454	1-249-520-11	CARBON 47 5% 1/4W	
R455	1-247-717-11	CARBON 2.2K 5% 1/4W	
R456	1-246-531-00	CARBON 270K 5% 1/4W	
R457	1-247-704-11	CARBON 220 5% 1/4W	
R458	1-219-030-11	FUSIBLE 220 5% 1/2W	
R459	1-219-030-11	FUSIBLE 220 5% 1/2W	
R460	1-214-937-00	METAL 1M 1% 1/2W	
R462	1-219-010-11	FUSIBLE 33 5% 1/2W	
R463	1-249-490-11	CARBON 27K 5% 1/2W	
R464	1-247-704-11	CARBON 220 5% 1/4W	
R465	1-246-531-00	CARBON 270K 5% 1/4W	
R466	1-247-740-11	CARBON 120 5% 1/2W	(F333ESL/F770ES)
R466	1-259-533-11	CARBON 120 1% 1/2W	(F870ES)
R467	1-259-580-11	CARBON 11K 5% 1/2W	
R468	1-259-580-11	CARBON 11K 5% 1/2W	
R469	1-259-503-11	CARBON 4.7M 5% 1/2W	
R470	1-249-556-11	CARBON 1.5K 5% 1/4W	
R471	1-247-721-11	CARBON 4.7K 5% 1/4W	
R472	1-219-022-11	FUSIBLE 100 5% 1/2W	
R494	1-219-022-11	FUSIBLE 100 5% 1/2W	
R495	1-219-022-11	FUSIBLE 100 5% 1/2W	
R701	1-219-024-91	FUSIBLE 120 5% 1/2W	
R751	1-219-024-91	FUSIBLE 120 5% 1/2W	
		〈 VARIABLE RESISTOR 〉	
RT401	1-237-498-21	RES, ADJ, METAL FILM 220	
RT451	1-237-498-21	RES, ADJ, METAL FILM 220	

****

* A-4345-326-A MAIN (B) BOARD, COMPLETE
  ****
  (F333ESL/F770ES:AEP, UK)

* A-4345-332-A MAIN (B) BOARD, COMPLETE(F770ES:Germany)
  ****

* A-4345-359-A MAIN (B) BOARD, COMPLETE (F870ES)
  ****

*	1-560-242-31	BUS BAR 5P
*	3-346-266-21	PLATE, GROUND
*	4-916-791-01	PLATE, GROUND, 5P
*	4-921-402-01	HEAT SINK
	7-682-548-09	SCREW +B 3X8

〈 CAPACITOR 〉

C416	1-136-161-00	FILM	0.047uF	5%	50V
C417	1-136-161-00	FILM	0.047uF	5%	50V

MAIN (B)

Ref.No.	Part No.	Description	Remark
C422	1-136-161-00	FILM 0.047uF 5% 50V	
C423	1-161-379-00	CERAMIC 0.01uF 20% 25V (F770ES:Germany/F870ES)	
C466	1-136-161-00	FILM 0.047uF 5% 50V	
C467	1-136-161-00	FILM 0.047uF 5% 50V	
C472	1-136-161-00	FILM 0.047uF 5% 50V	
C601	1-123-334-00	ELECT 220uF 20% 25V	
C602	1-136-157-00	FILM 0.022uF 5% 50V	
C603	1-136-157-00	FILM 0.022uF 5% 50V	
C604	1-124-122-11	ELECT 100uF 20% 50V	(F870ES)
C604	1-124-910-11	ELECT 47uF 20% 50V	(F333ESL/F770ES)
C606	1-123-380-00	ELECT 1uF 20% 100V	
C607	1-126-066-11	ELECT 470uF 20% 63V	
C703	1-128-201-11	ELECT 100uF 20% 63V	(F870ES)
C703	1-124-920-11	ELECT 330uF 20% 63V	(F333ESL/F770ES)
C705	1-137-213-11	FILM 2.2uF 5% 100V	
C753	1-124-920-11	ELECT 330uF 20% 63V	(F333ESL/F770ES)
C753	1-128-201-11	ELECT 100uF 20% 63V	(F870ES)
		〈 DIODE 〉	
D405	8-719-912-20	DIODE 1SS120	
D406	8-719-985-53	DIODE HZS4ALL	
D408	8-719-303-13	DIODE SEL1210W	
D411	8-719-912-20	DIODE 1SS120	
D412	8-719-985-53	DIODE HZS4ALL	
D415	8-719-912-20	DIODE 1SS120	
D416	8-719-912-20	DIODE 1SS120	
D455	8-719-912-20	DIODE 1SS120	
D456	8-719-985-53	DIODE HZS4ALL	
D458	8-719-303-13	DIODE SEL1210W	
D461	8-719-912-20	DIODE 1SS120	
D462	8-719-985-53	DIODE HZS4ALL	
D465	8-719-912-20	DIODE 1SS120	
D466	8-719-912-20	DIODE 1SS120	
D601	8-719-200-82	DIODE 11ES2	
D602	8-719-200-82	DIODE 11ES2	
D603	8-719-200-82	DIODE 11ES2	
D701	8-719-230-02	DIODE 30DF2	
D702	8-719-230-02	DIODE 30DF2	
D703	8-719-230-02	DIODE 30DF2	
D704	8-719-230-02	DIODE 30DF2	
D705	8-719-300-27	DIODE CTU-22S	
D755	8-719-300-25	DIODE CTU-22R	
		〈 CONNECTOR 〉	
EH25	* 1-564-508-11	PLUG, CONNECTOR 5P	
EH41	* 1-564-505-11	PLUG, CONNECTOR 2P	
		〈 IC 〉	
IC601	8-759-111-68	IC uPC1237HA	

Ref.No.	Part No.	Description	Remark
		〈 TRANSISTOR 〉	
Q410	8-729-209-17	TRANSISTOR 2SA1360-O	
Q420	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q460	8-729-209-17	TRANSISTOR 2SA1360-O	
Q470	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
		〈 RESISTOR 〉	
R423	1-247-714-11	CARBON 1.2K 5% 1/4W	
R424	1-247-719-11	CARBON 3.3K 5% 1/4W	
R425	1-247-711-11	CARBON 680 5% 1/4W	
R427	1-219-022-11	FUSIBLE 100 5% 1/2W	
R428	1-219-022-11	FUSIBLE 100 5% 1/2W	
R429	1-219-030-11	FUSIBLE 220 5% 1/2W	
R430	1-212-974-00	FUSIBLE 47 5% 1/2W	
R431	1-212-974-00	FUSIBLE 47 5% 1/2W	
R432	1-212-974-00	FUSIBLE 47 5% 1/2W	
R433	1-212-974-00	FUSIBLE 47 5% 1/2W	
R434	1-217-151-00	RES, METAL PLATE 0.22	
R435	1-217-151-00	RES, METAL PLATE 0.22	
R436	1-217-151-00	RES, METAL PLATE 0.22	
R437	1-217-151-00	RES, METAL PLATE 0.22	
R438	⚠1-247-692-11	CARBON 22 5% 1/4W	F
R439	⚠1-247-692-11	CARBON 22 5% 1/4W	F
R440	⚠1-247-717-11	CARBON 2.2K 5% 1/4W	F
R441	1-249-460-11	CARBON 15K 5% 1/4W	
R442	1-219-002-11	FUSIBLE 15 5% 1/2W	
R447	1-247-711-11	CARBON 680 5% 1/4W	
R449	1-219-002-11	FUSIBLE 15 5% 1/2W	
R473	1-247-714-11	CARBON 1.2K 5% 1/4W	
R474	1-247-719-11	CARBON 3.3K 5% 1/4W	
R475	1-247-711-11	CARBON 680 5% 1/4W	
R477	1-219-022-11	FUSIBLE 100 5% 1/2W	
R478	1-219-022-11	FUSIBLE 100 5% 1/2W	
R479	1-219-030-11	FUSIBLE 220 5% 1/2W	
R480	1-212-974-00	FUSIBLE 47 5% 1/2W	
R481	1-212-974-00	FUSIBLE 47 5% 1/2W	
R482	1-212-974-00	FUSIBLE 47 5% 1/2W	
R483	1-212-974-00	FUSIBLE 47 5% 1/2W	
R484	1-217-151-00	RES, METAL PLATE 0.22	
R485	1-217-151-00	RES, METAL PLATE 0.22	
R486	1-217-151-00	RES, METAL PLATE 0.22	
R487	1-217-151-00	RES, METAL PLATE 0.22	
R488	⚠1-247-692-11	CARBON 22 5% 1/4W	F
R489	⚠1-247-692-11	CARBON 22 5% 1/4W	F
R490	⚠1-247-717-11	CARBON 2.2K 5% 1/4W	F
R491	1-249-460-11	CARBON 15K 5% 1/4W	
R492	1-219-002-11	FUSIBLE 15 5% 1/2W	
R497	1-247-711-11	CARBON 680 5% 1/4W	
R499	1-219-002-11	FUSIBLE 15 5% 1/2W	
R601	1-247-891-00	CARBON 330K 5% 1/4W	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
R602	1-247-887-00	CARBON 220K 5% 1/4W	
R603	1-247-725-11	CARBON 10K 5% 1/4W	
R604	1-249-461-11	CARBON 18K 5% 1/4W	
R605	1-249-606-11	CARBON 180K 5% 1/4W	(F870ES)
R605	1-249-609-11	CARBON 240K 5% 1/4W	(F333ESL/F770ES)
R617	1-249-462-11	CARBON 22K 5% 1/4W	
R651	1-247-891-00	CARBON 330K 5% 1/4W	
R652	1-247-721-11	CARBON 4.7K 5% 1/4W	
R653	⚠1-212-934-00	FUSIBLE 1 5% 1/2W	F
		〈 VARIABLE RESISTOR 〉	
RT402	1-224-249-XX	RES, ADJ, SOLID 1K	
RT452	1-224-249-XX	RES, ADJ, SOLID 1K	
		〈 CONNECTOR 〉	
SE1	1-564-242-00	PIN, CONNECTOR 5P	
		〈 BASE POST 〉	
TP1	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P	(F870ES)
TP2	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P	(F870ES)
		〈 CONNECTOR 〉	
VH4	* 1-564-104-00	PIN, CONNECTOR 3P	
VH5	* 1-564-241-00	PIN, CONNECTOR 4P	
VH6	* 1-564-241-00	PIN, CONNECTOR 4P	
**********			
	* A-4345-327-A	EQ BOARD, COMPLETE	
		**********	
		(F333ESL/F770ES:AEP, UK)	
	* A-4345-333-A	EQ BOARD, COMPLETE (F770ES:Germany)	
		**********	
	* A-4345-360-A	EQ BOARD, COMPLETE (F870ES)	
		**********	
	* 4-921-402-01	HEAT SINK	
	7-682-548-09	SCREW +B 3X8	
		〈 CAPACITOR 〉	
C201	1-104-278-11	POLYSTYRENE 100PF 5% 50V	
		(F770ES:Germany/F870ES)	
C201	1-104-290-11	POLYSTYRENE 330PF 5% 50V	
		(F333ESL/F770ES:AEP, UK)	
C202	1-137-336-91	FILM 0.022uF 2% 100V	
C203	1-124-748-11	ELECT 22uF 20% 100V	(F870ES)
C203	1-124-916-11	ELECT 22uF 20% 63V	(F333ESL/F770ES)
C204	1-124-918-11	ELECT 47uF 20% 63V	(F333ESL/F770ES)
C204	1-126-359-11	ELECT 47uF 20% 80V	(F870ES)
C206	1-137-332-31	FILM 0.016uF 2% 100V	(F870ES)
C206	1-137-334-31	FILM 0.016uF 2% 630V	(F333ESL/F770ES)

Ref. No.	Part No.	Description	Remark
C207	1-137-333-31	FILM 0.056uF 2% 100V	(F870ES)
C207	1-137-335-31	FILM 0.056uF 2% 630V	(F333ESL/F770ES)
C209	1-124-922-11	ELECT 1000uF 20% 63V	(F870ES)
C209	1-126-066-11	ELECT 470uF 20% 63V	(F333ESL/F770ES)
C211	1-124-122-11	ELECT 100uF 20% 50V	
C212	1-123-604-00	ELECT 220uF 20% 63V	
C213	1-101-880-00	CERAMIC 47PF 5% 50V	
		(F770ES:Germany/F870ES)	
C214	1-161-379-00	CERAMIC 0.01uF 20% 25V	
		(F770ES:Germany/F870ES)	
C251	1-104-278-11	POLYSTYRENE 100PF 5% 50V	
		(F770ES:Germany/F870ES)	
C251	1-104-290-11	POLYSTYRENE 330PF 5% 50V	
		(F333ESL/F770ES:AEP, UK)	
C252	1-137-336-91	FILM 0.022uF 2% 100V	
C253	1-124-748-11	ELECT 22uF 20% 100V	(F870ES)
C253	1-124-916-11	ELECT 22uF 20% 63V	(F333ESL/F770ES)
C254	1-124-918-11	ELECT 47uF 20% 63V	(F333ESL/F770ES)
C254	1-126-359-11	ELECT 47uF 20% 80V	(F870ES)
C256	1-137-332-31	FILM 0.016uF 2% 100V	(F870ES)
C256	1-137-334-31	FILM 0.016uF 2% 630V	(F333ESL/F770ES)
C257	1-137-333-31	FILM 0.056uF 2% 100V	(F870ES)
C257	1-137-335-31	FILM 0.056uF 2% 630V	(F333ESL/F770ES)
C259	1-124-922-11	ELECT 1000uF 20% 63V	(F870ES)
C259	1-126-066-11	ELECT 470uF 20% 63V	(F333ESL/F770ES)
C261	1-124-122-11	ELECT 100uF 20% 50V	
C262	1-123-604-00	ELECT 220uF 20% 63V	
C263	1-101-880-00	CERAMIC 47PF 5% 50V	
		(F770ES:Germany/F870ES)	
		〈 DIODE 〉	
D202	8-719-933-36	DIODE HZS6B1L	
D252	8-719-933-36	DIODE HZS6B1L	
		〈 CONNECTOR 〉	
EH17	* 1-564-508-11	PLUG, CONNECTOR 5P	
EH18	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH19	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH20	* 1-564-507-11	PLUG, CONNECTOR 4P	
		〈 IC 〉	
IC201	8-759-711-53	IC NJM2068S-D	
IC251	8-759-711-53	IC NJM2068S-D	
		〈 TRANSISTOR 〉	
Q201	8-729-214-73	TRANSISTOR 2SK147-V	
		(F770ES:Germany/F870ES)	
Q201	8-729-217-04	TRANSISTOR 2SK170-V	
		(F333ESL/F770ES:AEP, UK)	
Q202	8-729-203-45	TRANSISTOR 2SC3423-O	
Q203	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q204	8-729-201-56	TRANSISTOR 2SK246-GR2	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

EQ FUNCTION

Ref.No.	Part No.	Description	Remark
Q205	8-729-127-53	TRANSISTOR 2SC2275-P	
Q206	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q207	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q208	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q209	8-729-214-73	TRANSISTOR 2SK147-V (F770ES:Germany/F870ES)	
Q209	8-729-217-04	TRANSISTOR 2SK170-V (F333ESL/F770ES:AEP,UK)	
Q251	8-729-214-73	TRANSISTOR 2SK147-V (F770ES:Germany/F870ES)	
Q251	8-729-217-04	TRANSISTOR 2SK170-V (F333ESL/F770ES:AEP,UK)	
Q252	8-729-203-45	TRANSISTOR 2SC3423-O	
Q253	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q254	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q255	8-729-141-10	TRANSISTOR 2SA985-QP	
Q256	8-729-201-56	TRANSISTOR 2SK246-GR2	
Q257	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q258	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q259	8-729-214-73	TRANSISTOR 2SK147-V (F770ES:Germany/F870ES)	
Q259	8-729-217-04	TRANSISTOR 2SK170-V (F333ESL/F770ES:AEP,UK)	
		〈 RESISTOR 〉	
R201	1-249-465-11	CARBON 47K 5% 1/4W	
R202	1-247-706-11	CARBON 330 5% 1/4W	
R203	1-247-713-11	CARBON 1K 5% 1/4W	
R204	1-247-700-11	CARBON 100 5% 1/4W	
R205	1-247-128-00	CARBON 750 5% 1/4W	
R206	1-247-128-00	CARBON 750 5% 1/4W	
R207	1-247-700-11	CARBON 100 5% 1/4W (F333ESL/F770ES:AEP,UK)	
R207	1-249-512-11	CARBON 22 5% 1/4W (F770ES:Germany/F870ES)	
R208	1-247-708-11	CARBON 470 5% 1/4W	
R209	1-249-518-11	CARBON 39 5% 1/4W	
R210	1-247-704-11	CARBON 220 5% 1/4W	
R211	1-247-721-11	CARBON 4.7K 5% 1/4W	
R212	1-246-545-00	CARBON 1.0M 5% 1/4W	
R213	1-249-844-11	CARBON 56K 1% 1/2W	
R214	1-247-700-11	CARBON 100 5% 1/4W	
R215	1-249-818-11	CARBON 4.7K 1% 1/2W (F333ESL/F770ES)	
R215	1-259-571-11	CARBON 4.7K 1% 1/2W (F870ES)	
R217	1-260-661-11	CARBON 6.8 5% 1/4W	
R218	1-247-700-11	CARBON 100 5% 1/4W	
R219	1-247-704-11	CARBON 220 5% 1/4W	
R220	1-247-725-11	CARBON 10K 5% 1/4W	
R221	1-247-704-11	CARBON 220 5% 1/4W	
R222	1-247-717-11	CARBON 2.2K 5% 1/4W	
R223	1-247-723-11	CARBON 6.8K 5% 1/4W	
R224	1-247-713-11	CARBON 1K 5% 1/4W	

Ref.No.	Part No.	Description	Remark
R225	1-219-024-91	FUSIBLE 120 5% 1/2W	
R251	1-249-465-11	CARBON 47K 5% 1/4W	
R252	1-247-706-11	CARBON 330 5% 1/4W	
R253	1-247-713-11	CARBON 1K 5% 1/4W	
R254	1-247-700-11	CARBON 100 5% 1/4W	
R255	1-247-128-00	CARBON 750 5% 1/4W	
R256	1-247-128-00	CARBON 750 5% 1/4W	
R257	1-247-700-11	CARBON 100 5% 1/4W (F333ESL/F770ES:AEP,UK)	
R257	1-249-512-11	CARBON 22 5% 1/4W (F770ES:Germany/F870ES)	
R258	1-247-708-11	CARBON 470 5% 1/4W	
R259	1-249-518-11	CARBON 39 5% 1/4W	
R260	1-247-704-11	CARBON 220 5% 1/4W	
R261	1-247-721-11	CARBON 4.7K 5% 1/4W	
R262	1-246-545-00	CARBON 1.0M 5% 1/4W	
R263	1-249-844-11	CARBON 56K 1% 1/2W	
R264	1-247-700-11	CARBON 100 5% 1/4W	
R265	1-259-571-11	CARBON 4.7K 1% 1/2W (F870ES)	
R265	1-249-818-11	CARBON 4.7K 1% 1/2W (F333ESL/F770ES)	
R267	1-260-661-11	CARBON 6.8 5% 1/4W	
R268	1-247-700-11	CARBON 100 5% 1/4W	
R269	1-247-704-11	CARBON 220 5% 1/4W	
R270	1-247-725-11	CARBON 10K 5% 1/4W	
R271	1-247-704-11	CARBON 220 5% 1/4W	
R272	1-247-717-11	CARBON 2.2K 5% 1/4W	
R273	1-247-723-11	CARBON 6.8K 5% 1/4W	
R274	1-247-713-11	CARBON 1K 5% 1/4W	
R275	1-219-024-91	FUSIBLE 120 5% 1/2W	
		〈 SWITCH 〉	
S201	1-554-019-21	SWITCH, SLIDE (REMOTE TYPE) (CARTRIDGE LOAD)	
		**********	
	* 1-637-081-11	FUNCTION BOARD (F870ES) **********	
	* 1-637-081-13	FUNCTION BOARD (F333ESL/F770ES) **********	
	* 1-564-599-11	PIN, CONNECTOR 8P	
		〈 CAPACITOR 〉	
C916	1-124-631-11	ELECT 47uF 20% 16V	
		〈 CONNECTOR 〉	
EH16	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH35	* 1-564-512-11	PLUG, CONNECTOR 9P	
EH40	* 1-564-505-11	PLUG, CONNECTOR 2P	
EH42	* 1-564-506-11	PLUG, CONNECTOR 3P	

FUNCTION | **AC SW** | **H.P** | **VOL** | **LED (VOL)** | **S.D**

Ref.No.	Part No.	Description	Remark
		〈 SWITCH 〉	
S101	1-572-096-11	SWITCH, ROTARY (WITH MOTOR) (F333ESL/F770ES)	
**********			
	* 1-637-085-11	AC SW BOARD **********	
		〈 SWITCH 〉	
S801	⚠1-554-538-00	SWITCH, PUSH (AC POWER)(1 KEY) (F333ESL/F770ES)	
		〈 CONNECTOR 〉	
SE8	1-564-321-00	PIN, CONNECTOR 2P	
**********			
	* 1-637-086-11	H.P BOARD *********	
		〈 CAPACITOR 〉	
C503	1-102-973-00	CERAMIC 100PF 5% 50V (F770ES:Germany/F870ES)	
C553	1-102-973-00	CERAMIC 100PF 5% 50V (F770ES:Germany/F870ES)	
		〈 JACK 〉	
J401	1-507-796-71	JACK (HEADPHONES)	
**********			
	* 1-637-082-12	VOL BOARD *********	
		〈 CAPACITOR 〉	
C318	1-124-902-00	ELECT 0.47uF 20% 50V	
C319	1-104-272-11	POLYSTYRENE 33PF 10% 50V	
C369	1-104-272-11	POLYSTYRENE 33PF 10% 50V	
C918	1-124-631-11	ELECT 47uF 20% 16V	
		〈 DIODE 〉	
D301	8-719-912-20	DIODE 1SS120	
D933	8-719-912-20	DIODE 1SS120	
		〈 CONNECTOR 〉	
EH14	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH28	* 1-564-509-11	PLUG, CONNECTOR 6P	
EH30	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH34	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH36	* 1-564-505-11	PLUG, CONNECTOR 2P	
EH37	* 1-564-505-11	PLUG, CONNECTOR 2P	
EH40	* 1-564-505-11	PLUG, CONNECTOR 2P	
		〈 TRANSISTOR 〉	
Q310	8-729-281-54	TRANSISTOR 2SC1815-BL	
		〈 RESISTOR 〉	
R316	1-249-926-11	CARBON 1.3K 5% 1/4W	
R317	1-247-721-11	CARBON 4.7K 5% 1/4W	
		〈 VARIABLE RESISTOR 〉	
RV304	1-241-290-11	RES, VAR, CARBON 30KX2 (ATTENUATOR)	
		〈 RELAY 〉	
RY301	1-515-726-11	RELAY	
RY901	1-515-622-11	RELAY	
**********			
	* 1-637-084-11	LED (VOL) BOARD **********	
		〈 DIODE 〉	
D508	8-719-303-02	DIODE SEL2510C-D	
**********			
	* 1-637-087-11	S.D BOARD *********	
		〈 CAPACITOR 〉	
C310	1-136-169-00	FILM 0.22uF 5% 50V	
		〈 CONNECTOR 〉	
EH13	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH26	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH27	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH38	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH39	* 1-564-506-11	PLUG, CONNECTOR 3P	
		〈 RESISTOR 〉	
R301	1-249-833-11	CARBON 20K 5% 1/2W	
R302	1-247-717-11	CARBON 2.2K 5% 1/4W	
R351	1-249-833-11	CARBON 20K 5% 1/2W	
R352	1-247-717-11	CARBON 2.2K 5% 1/4W	
		〈 SWITCH 〉	
S301	1-572-551-11	SWITCH, PUSH (2 KEY)(MUTING)	
S304	1-572-551-11	SWITCH, PUSH (2 KEY)(SOURCE DIRECT)	
**********			

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

SP-SW | SP TERMINAL | TONE

Ref.No.	Part No.	Description				Remark
	* 1-637-088-12	SP-SW BOARD				
		**********				
		⟨ CAPACITOR ⟩				
C611	1-106-343-00	MYLAR	1000PF	5%	200V	
		⟨ CONNECTOR ⟩				
EH32	* 1-564-506-11	PLUG, CONNECTOR 3P				
		⟨ RESISTOR ⟩				
R618	1-247-741-11	CARBON	150	5%	1/2W	
R619	1-247-741-11	CARBON	150	5%	1/2W	
R621	1-247-747-11	CARBON	470	5%	1/2W	
R623	1-247-747-11	CARBON	470	5%	1/2W	
R625	1-247-747-11	CARBON	470	5%	1/2W	
R627	1-247-747-11	CARBON	470	5%	1/2W	
		⟨ SWITCH ⟩				
S601	1-572-107-11	SWITCH, ROTARY (SPEAKERS)				
**********						
	* 1-637-089-12	SP TERMINAL BOARD				
		**********				
	* 1-560-242-11	BUS BAR 3P				
	* 1-560-242-61	BUS BAR 2P				
	* 4-843-416-11	PLATE, FIXED, CAP				
		⟨ CAPACITOR ⟩				
C501	1-106-361-00	MYLAR	0.0056uF	10%	100V	
		(F770ES:Germany/F870ES)				
C502	1-102-820-00	CERAMIC	330PF	5%	50V	
		(F770ES:Germany/F870ES)				
C551	1-106-361-00	MYLAR	0.0056uF	10%	100V	
		(F770ES:Germany/F870ES)				
C552	1-102-820-00	CERAMIC	330PF	5%	50V	
		(F770ES:Germany/F870ES)				
		⟨ DIODE ⟩				
D612	8-719-912-20	DIODE 1SS120				
D613	8-719-912-20	DIODE 1SS120				
		⟨ CONNECTOR ⟩				
EH31	* 1-564-506-11	PLUG, CONNECTOR 3P				
EH33	* 1-564-506-11	PLUG, CONNECTOR 3P				
EH45	* 1-564-507-11	PLUG, CONNECTOR 4P				
		⟨ COIL ⟩				
L401	* 1-422-009-13	COIL, AIR-CORE				
L451	* 1-422-009-13	COIL, AIR-CORE				

Ref.No.	Part No.	Description				Remark
		⟨ RESISTOR ⟩				
R443	1-247-727-11	CARBON	10	5%	1/2W	
R446	1-247-747-11	CARBON	470	5%	1/2W	
R450	1-247-747-11	CARBON	470	5%	1/2W	
R493	1-247-727-11	CARBON	10	5%	1/2W	
R496	1-247-747-11	CARBON	470	5%	1/2W	
R500	1-247-747-11	CARBON	470	5%	1/2W	
R501	1-249-689-11	CARBON	4.7K	5%	1/2W	
R502	1-249-657-11	CARBON	220	5%	1/2W	
R503	1-247-727-11	CARBON	10	5%	1/2W	
		(F770ES:Germany/F870ES)				
R551	1-249-689-11	CARBON	4.7K	5%	1/2W	
R552	1-249-657-11	CARBON	220	5%	1/2W	
R553	1-247-727-11	CARBON	10	5%	1/2W	
		(F770ES:Germany/F870ES)				
		⟨ RELAY ⟩				
RY602	1-515-676-11	RELAY				
RY603	1-515-676-11	RELAY				
		⟨ TEST POINT ⟩				
TP3	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P				
**********						
	* 1-637-090-12	TONE BOARD				
		**********				
		⟨ CAPACITOR ⟩				
C301	1-136-173-00	FILM	0.47uF	5%	50V	
C302	1-107-165-00	MICA	56PF	5%	50V	
C303	1-123-369-00	ELECT	4.7uF	20%	63V	
C304	1-123-369-00	ELECT	4.7uF	20%	63V	
C305	1-123-369-00	ELECT	4.7uF	20%	63V	
C306	1-136-155-00	FILM	0.015uF	5%	50V	
C307	1-136-161-00	FILM	0.047uF	5%	50V	
C308	1-136-169-00	FILM	0.22uF	5%	50V	
C309	1-136-175-00	FILM	0.68uF	5%	50V	
C320	1-123-369-00	ELECT	4.7uF	20%	63V	
C321	1-102-973-00	CERAMIC	100PF	5%	50V	
		(F770ES:Germany/F870ES)				
C351	1-136-173-00	FILM	0.47uF	5%	50V	
C352	1-107-165-00	MICA	56PF	5%	50V	
C355	1-123-369-00	ELECT	4.7uF	20%	63V	
C356	1-136-155-00	FILM	0.015uF	5%	50V	
C357	1-136-161-00	FILM	0.047uF	5%	50V	
C358	1-136-169-00	FILM	0.22uF	5%	50V	
C359	1-136-175-00	FILM	0.68uF	5%	50V	
C370	1-123-369-00	ELECT	4.7uF	20%	63V	
C371	1-102-973-00	CERAMIC	100PF	5%	50V	
		(F770ES:Germany/F870ES)				

Ref.No.	Part No.	Description				Remark
		〈 IC 〉				
IC301	8-759-602-19	IC M5220L				
		〈 RESISTOR 〉				
R304	1-247-713-11	CARBON	1K	5%	1/4W	
R305	1-246-545-00	CARBON	1.0M	5%	1/4W	
R306	1-247-758-11	CARBON	3.3K	5%	1/2W	
R307	1-247-713-11	CARBON	1K	5%	1/4W	
R308	1-247-704-11	CARBON	220	5%	1/4W	
R310	1-259-421-11	CARBON	510	5%	1/4W	
R311	1-247-703-11	CARBON	180	5%	1/4W	
R312	1-247-718-11	CARBON	2.7K	5%	1/4W	
R313	1-249-551-11	CARBON	910	5%	1/4W	
R314	1-246-545-00	CARBON	1.0M	5%	1/4W	
R315	1-246-545-00	CARBON	1.0M	5%	1/4W	
R354	1-247-713-11	CARBON	1K	5%	1/4W	
R355	1-246-545-00	CARBON	1.0M	5%	1/4W	
R356	1-247-758-11	CARBON	3.3K	5%	1/2W	
R357	1-247-713-11	CARBON	1K	5%	1/4W	
R358	1-247-704-11	CARBON	220	5%	1/4W	
R360	1-259-421-11	CARBON	510	5%	1/4W	
R361	1-247-703-11	CARBON	180	5%	1/4W	
R362	1-247-718-11	CARBON	2.7K	5%	1/4W	
R363	1-249-551-11	CARBON	910	5%	1/4W	
R364	1-246-545-00	CARBON	1.0M	5%	1/4W	
R365	1-246-545-00	CARBON	1.0M	5%	1/4W	
		〈 VARIABLE RESISTOR 〉				
RV301	1-241-291-11	RES, VAR, CARBON 100K/100K (BALANCE)				
RV302	1-241-292-11	RES, VAR, CARBON 10K (TREBLE)				
RV303	1-241-293-11	RES, VAR, CARBON 10K (BASS)				
		〈 SWITCH 〉				
S302	1-572-549-11	SWITCH, PUSH (2 KEY)(SUB SONIC)				
S303	1-572-549-11	SWITCH, PUSH (2 KEY)(MODE)				

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*	1-637-091-12	INPUT BOARD				
		**********				
*	1-565-492-11	CONNECTOR, BOARD TO BOARD 16P				
*	4-835-639-00	PLATE, GROUND				
		〈 CAPACITOR 〉				
C101	1-162-285-31	CERAMIC	180PF	10%	50V	
		(F770ES:Germany/F870ES)				
C103	1-104-274-11	POLYSTYRENE	47PF	10%	50V	
		(F770ES:Germany/F870ES)				
C151	1-162-285-31	CERAMIC	180PF	10%	50V	
		(F770ES:Germany/F870ES)				

Ref.No.	Part No.	Description				Remark
C153	1-104-274-11	POLYSTYRENE	47PF	10%	50V	
		(F770ES:Germany/F870ES)				
		〈 CONNECTOR 〉				
EH12	* 1-564-507-11	PLUG, CONNECTOR 4P				
		〈 JACK 〉				
J101	1-507-831-41	JACK, PIN 6P (CD/TUNER/PHONO)				
J102	1-507-831-41	JACK, PIN 6P (AUX/TAPE 3 REC OUT, IN)				
J103	1-507-831-41	JACK, PIN 6P (DIRECT IN/ADAPTOR IN, OUT)				
J104	1-507-920-00	JACK, PIN 4P (TAPE 2 REC OUT, ON)				
J105	1-507-920-00	JACK, PIN 4P (DAT/TAPE 1 REC OUT, ON)				
		〈 COIL 〉				
L101	1-424-397-11	COIL, CHOKE 200uH				
		(F770ES:Germany/F870ES)				
L102	1-424-397-11	COIL, CHOKE 200uH				
		(F770ES:Germany/F870ES)				
L151	1-424-397-11	COIL, CHOKE 200uH				
		(F770ES:Germany/F870ES)				
L152	1-424-397-11	COIL, CHOKE 200uH				
		(F770ES:Germany/F870ES)				
		〈 RESISTOR 〉				
R101	1-246-545-00	CARBON	1.0M	5%	1/4W	
R102	1-246-545-00	CARBON	1.0M	5%	1/4W	
R103	1-246-545-00	CARBON	1.0M	5%	1/4W	
R104	1-246-545-00	CARBON	1.0M	5%	1/4W	
R105	1-246-545-00	CARBON	1.0M	5%	1/4W	
R106	1-246-545-00	CARBON	1.0M	5%	1/4W	
R107	1-247-713-11	CARBON	1K	5%	1/4W	
R108	1-247-713-11	CARBON	1K	5%	1/4W	
R109	1-247-713-11	CARBON	1K	5%	1/4W	
R110	1-247-739-11	CARBON	100	5%	1/2W	
		(F333ESL/F770ES:AEP, UK)				
R110	1-249-673-11	CARBON	1K	5%	1/2W	
		(F770ES:Germany/F870ES)				
R111	1-246-545-00	CARBON	1.0M	5%	1/4W	
R112	1-259-436-11	CARBON	2.2K	5%	1/6W	
		(F770ES:Germany/F870ES)				
R113	1-259-436-11	CARBON	2.2K	5%	1/6W	
		(F770ES:Germany/F870ES)				
R120	1-246-545-00	CARBON	1.0M	5%	1/4W	
R151	1-246-545-00	CARBON	1.0M	5%	1/4W	
R152	1-246-545-00	CARBON	1.0M	5%	1/4W	
R153	1-246-545-00	CARBON	1.0M	5%	1/4W	
R154	1-246-545-00	CARBON	1.0M	5%	1/4W	
R155	1-246-545-00	CARBON	1.0M	5%	1/4W	
R156	1-246-545-00	CARBON	1.0M	5%	1/4W	
R157	1-247-713-11	CARBON	1K	5%	1/4W	
R158	1-247-713-11	CARBON	1K	5%	1/4W	
R159	1-247-713-11	CARBON	1K	5%	1/4W	

INPUT | LED (P.L) | PREOUT | CONTROL

Ref.No.	Part No.	Description	Remark
R160	1-247-739-11	CARBON 100 5% 1/2W (F333ESL/F770ES:AEP,UK)	
R160	1-249-673-11	CARBON 1K 5% 1/2W (F770ES:Germany/F870ES)	
R161	1-246-545-00	CARBON 1.0M 5% 1/4W	
R162	1-259-436-11	CARBON 2.2K 5% 1/6W (F770ES:Germany/F870ES)	
R163	1-259-436-11	CARBON 2.2K 5% 1/6W (F770ES:Germany/F870ES)	
R170	1-246-545-00	CARBON 1.0M 5% 1/4W	
		〈 SWITCH 〉	
S102	1-570-593-11	SWITCH, SLIDE(REMOTE TYPE)(DIRECT INPUT)	
S103	1-570-076-11	SWITCH, SLIDE(REMOTE TYPE) (REC OUT SELECT)	
**********			
*	1-637-092-11	LED (P.L) BOARD **********	
		〈 DIODE 〉	
D607	8-719-313-40	DIODE SEL1516W	
**********			
*	1-639-110-11	PREOUT BOARD **********	
		〈 CONNECTOR 〉	
CNJ901	1-564-980-11	PIN, CONNECTOR 4P (CONTROL S)	
		〈 DIODE 〉	
D950	8-719-912-20	DIODE 1SS120	
		〈 CONNECTOR 〉	
EH43	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH44	* 1-564-506-11	PLUG, CONNECTOR 3P	
		〈 JACK 〉	
J902	1-565-319-71	JACK, PIN 2P (PREOUT)	
		〈 TRANSISTOR 〉	
Q950	8-729-900-80	TRANSISTOR DTC114ES	
		〈 RESISTOR 〉	
R953	1-249-393-11	CARBON 10 5% 1/4W	
R958	1-249-429-11	CARBON 10K 5% 1/4W	
**********			

Ref.No.	Part No.	Description			Remark
*	A-4345-485-A	CONTROL BOARD, COMPLETE **********			
		〈 CAPACITOR 〉			
C605	1-126-062-11	ELECT	47uF	20%	63V
C608	1-126-058-11	ELECT	4.7uF	20%	63V
C610	1-126-058-11	ELECT	4.7uF	20%	63V
C901	1-136-165-00	FILM	0.1uF	5%	50V
C902	1-124-556-11	ELECT	2200uF	20%	16V
C903	1-161-379-00	CERAMIC	0.01uF	20%	25V
C904	1-126-233-11	ELECT	22uF	20%	50V
C905	1-124-907-11	ELECT	10uF	20%	50V
C906	1-126-233-11	ELECT	22uF	20%	50V
C907	1-136-161-00	FILM	0.047uF	5%	50V
C908	1-126-233-11	ELECT	22uF	20%	50V
C909	1-102-963-00	CERAMIC	33PF	5%	50V
C910	1-102-963-00	CERAMIC	33PF	5%	50V
C912	1-101-004-00	CERAMIC	0.01uF		50V
C920	1-136-165-00	FILM	0.1uF	5%	50V
C921	1-124-907-11	ELECT	10uF	20%	50V
C922	1-124-907-11	ELECT	10uF	20%	50V
C923	1-124-907-11	ELECT	10uF	20%	50V
C935	1-161-379-00	CERAMIC	0.01uF	20%	25V
C936	1-161-379-00	CERAMIC	0.01uF	20%	25V
C937	1-124-604-00	ELECT	330uF	20%	10V
C939	1-161-379-00	CERAMIC	0.01uF	20%	25V
C940	1-124-477-11	ELECT	47uF	20%	25V
C941	1-124-477-11	ELECT	47uF	20%	25V
C942	1-124-477-11	ELECT	47uF	20%	25V
C943	1-124-477-11	ELECT	47uF	20%	25V
C944	1-124-477-11	ELECT	47uF	20%	25V
C945	1-124-477-11	ELECT	47uF	20%	25V
C946	1-124-477-11	ELECT	47uF	20%	25V
C947	1-161-379-00	CERAMIC	0.01uF	20%	25V
C948	1-161-379-00	CERAMIC	0.01uF	20%	25V
C949	1-161-379-00	CERAMIC	0.01uF	20%	25V
C950	1-161-379-00	CERAMIC	0.01uF	20%	25V
C951	1-161-379-00	CERAMIC	0.01uF	20%	25V
C952	1-161-379-00	CERAMIC	0.01uF	20%	25V
C953	1-161-379-00	CERAMIC	0.01uF	20%	25V
		〈 DIODE 〉			
D604	8-719-912-20	DIODE 1SS120			
D605	8-719-912-20	DIODE 1SS120			
D606	8-719-912-20	DIODE 1SS120			
D901	8-719-200-82	DIODE 11ES2			
D902	8-719-200-82	DIODE 11ES2			
D903	8-719-200-82	DIODE 11ES2			
D904	8-719-200-82	DIODE 11ES2			
D905	8-719-912-20	DIODE 1SS120			
D913	8-719-912-20	DIODE 1SS120			

Ref.No.	Part No.	Description	Remark
D914	8-719-912-20	DIODE 1SS120	
D915	8-719-912-20	DIODE 1SS120	
D916	8-719-912-20	DIODE 1SS120	
D917	8-719-912-20	DIODE 1SS120	
D918	8-719-912-20	DIODE 1SS120	
D919	8-719-912-20	DIODE 1SS120	
D920	8-719-912-20	DIODE 1SS120	
D921	8-719-912-20	DIODE 1SS120	
D922	8-719-912-20	DIODE 1SS120	
D923	8-719-912-20	DIODE 1SS120	
D924	8-719-912-20	DIODE 1SS120	
		〈 CONNECTOR 〉	
EH1	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH2	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH3	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH4	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH5	* 1-564-505-11	PLUG, CONNECTOR 2P	
EH6	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH7	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH8	* 1-564-512-11	PLUG, CONNECTOR 9P	
EH9	* 1-564-512-11	PLUG, CONNECTOR 9P	
EH10	* 1-564-505-11	PLUG, CONNECTOR 2P	
EH11	* 1-564-511-11	PLUG, CONNECTOR 8P	
EH46	* 1-564-506-11	PLUG, CONNECTOR 3P	
		〈 IC 〉	
IC901	8-759-635-31	IC M50253P	
IC902	8-759-239-47	IC TC74HC123AP	
IC903	8-759-635-88	IC M50720-255SP	
IC904	8-719-902-56	IC PC817	
IC905	8-759-604-84	IC M5F7806L	
IC906	8-759-604-84	IC M5F7806L	
IC907	8-759-962-08	IC BA6208	
IC908	8-759-962-08	IC BA6208	
		〈 TRANSISTOR 〉	
Q601	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q602	8-729-201-53	TRANSISTOR 2SA1015-GR	
Q603	8-729-140-96	TRANSISTOR 2SD774-34	
Q604	8-729-281-54	TRANSISTOR 2SC1815-BL	
Q901	8-729-900-36	TRANSISTOR DTC124ES	
Q902	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q903	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q904	8-729-900-61	TRANSISTOR DTA114ES	
Q912	8-729-119-77	TRANSISTOR 2SA1175-FEK	
Q913	8-729-900-61	TRANSISTOR DTA114ES	
		〈 RESISTOR 〉	
R606	1-249-429-11	CARBON 10K 5% 1/4W	
R608	1-249-437-11	CARBON 47K 5% 1/4W	
R609	1-249-437-11	CARBON 47K 5% 1/4W	
R610	1-249-433-11	CARBON 22K 5% 1/4W	
R611	1-247-812-11	CARBON 160 5% 1/4W	
R616	1-249-398-11	CARBON 27 5% 1/4W	
R633	1-249-425-11	CARBON 4.7K 5% 1/4W	
R650	1-247-838-00	CARBON 2K 5% 1/4W	
R908	1-249-429-11	CARBON 10K 5% 1/4W	
R909	1-249-429-11	CARBON 10K 5% 1/4W	
R910	1-247-887-00	CARBON 220K 5% 1/4W	
R911	1-249-441-11	CARBON 100K 5% 1/4W	
R912	1-249-441-11	CARBON 100K 5% 1/4W	
R913	1-247-895-00	CARBON 470K 5% 1/4W	
R914	1-249-405-11	CARBON 100 5% 1/4W	
R915	1-249-430-11	CARBON 12K 5% 1/4W	
R916	1-249-405-11	CARBON 100 5% 1/4W	
R917	1-247-903-00	CARBON 1M 5% 1/4W	
R918	1-249-429-11	CARBON 10K 5% 1/4W	
R919	1-249-429-11	CARBON 10K 5% 1/4W	
R920	1-249-425-11	CARBON 4.7K 5% 1/4W	
R921	1-249-429-11	CARBON 10K 5% 1/4W	
R922	1-249-425-11	CARBON 4.7K 5% 1/4W	
R923	1-249-425-11	CARBON 4.7K 5% 1/4W	
R924	1-249-425-11	CARBON 4.7K 5% 1/4W	
R925	1-249-425-11	CARBON 4.7K 5% 1/4W	
R926	1-249-413-11	CARBON 470 5% 1/4W	
R927	1-249-429-11	CARBON 10K 5% 1/4W	
R928	1-249-429-11	CARBON 10K 5% 1/4W	
R929	1-249-429-11	CARBON 10K 5% 1/4W	
R930	1-249-429-11	CARBON 10K 5% 1/4W	
R931	1-249-429-11	CARBON 10K 5% 1/4W	
R933	1-249-520-11	CARBON 47 5% 1/4W	
R934	1-249-504-11	CARBON 10 5% 1/4W	
R936	1-249-504-11	CARBON 10 5% 1/4W	
R938	1-249-429-11	CARBON 10K 5% 1/4W	
R940	1-249-399-11	CARBON 33 5% 1/4W	
R941	1-249-441-11	CARBON 100K 5% 1/4W	
R942	1-249-405-11	CARBON 100 5% 1/4W	
R943	1-249-429-11	CARBON 10K 5% 1/4W	
R944	1-249-425-11	CARBON 4.7K 5% 1/4W	
		〈 RELAY 〉	
RY601	1-515-614-11	RELAY	
		〈 VIBRATOR 〉	
X901	1-577-260-21	VIBRATOR, CERAMIC	

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SW (F) EYE OUTLET V.S

Ref.No.	Part No.	Description	Remark
	* 1-637-094-12	SW (F) BOARD	
		**********	
		〈 DIODE 〉	
D506	8-719-301-49	DIODE SEL2810A	
D507	8-719-301-49	DIODE SEL2810A	
D925	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))	
D925	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
D926	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))	
D926	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
D927	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))	
D927	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
D928	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))	
D928	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
D929	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))	
D929	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
D930	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))	
D930	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
D931	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))	
D931	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
		〈 RESISTOR 〉	
R613	1-249-799-11	CARBON 750 5% 1/2W	
R628	1-247-703-11	CARBON 180 5% 1/4W	
R629	1-247-703-11	CARBON 180 5% 1/4W	
R901	1-247-887-00	CARBON 220K 5% 1/4W	
R902	1-247-887-00	CARBON 220K 5% 1/4W	
R903	1-247-887-00	CARBON 220K 5% 1/4W	
R904	1-247-887-00	CARBON 220K 5% 1/4W	
R905	1-247-887-00	CARBON 220K 5% 1/4W	
R906	1-247-887-00	CARBON 220K 5% 1/4W	
R907	1-247-887-00	CARBON 220K 5% 1/4W	
		〈 SWITCH 〉	
S901	1-572-198-11	SWITCH, KEY BOARD (PHONO)	
S902	1-572-198-11	SWITCH, KEY BOARD (TUNER)	
S903	1-572-198-11	SWITCH, KEY BOARD (CD)	
S904	1-572-198-11	SWITCH, KEY BOARD (AUX)	
S905	1-572-198-11	SWITCH, KEY BOARD (TAPE 3)	
S906	1-572-198-11	SWITCH, KEY BOARD (TAPE 2)	
S907	1-572-198-11	SWITCH, KEY BOARD (DAT/TAPE 1)	
**********			
	* 1-637-095-11	EYE BOARD	
		*********	
		〈 CAPACITOR 〉	
C914	1-126-022-11	ELECT 47uF 20% 10V	
		〈 IC 〉	
IC909	8-749-920-59	IC A1QH3020S	
		〈 RESISTOR 〉	
R932	1-249-421-11	CARBON 2.2K 5% 1/4W	
**********			
	* 1-640-345-11	OUTLET BOARD (F770ES/F870ES)	
		**********	
	1-533-183-11	HOLDER, FUSE	
	* 4-923-814-01	PLATE, CONNECTION (F770ES/F870ES)	
		〈 CAPACITOR 〉	
C801	⚠1-161-741-00	CERAMIC 0.001uF 10% 400V(F770ES/F870ES)	
		〈 CONNECTOR 〉	
SE100	1-564-321-00	PIN, CONNECTOR 2P (F770ES/F870ES)	
VH100	* 1-564-321-00	PIN, CONNECTOR 2P (F770ES/F870ES)	
VH101	* 1-564-321-21	PIN, CONNECTOR 2P (F770ES/F870ES)	
**********			
	* 1-637-837-12	V.S BOARD (E)(F333ESL)	
		**********	
	1-533-183-11	HOLDER, FUSE (F333ESL)	
		〈 CAPACITOR 〉	
C901	1-161-741-00	CERAMIC 0.001uF 10% 400V (E)(F333ESL)	
		〈 SELECTOR 〉	
S802	⚠1-572-009-11	SELECTOR, VOLTAGE (E)(F333ESL)	
		〈 CONNECTOR 〉	
SE2	1-564-687-11	PIN, CONNECTOR 3P (E)(F333ESL)	
SE3	1-564-687-11	PIN, CONNECTOR 3P (E)(F333ESL)	
SE51	1-564-321-00	PIN, CONNECTOR 2P (E)(F333ESL)	
VH50	* 1-564-321-00	PIN, CONNECTOR 2P (E)(F333ESL)	

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark

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ACCESSORIES & PACKING MATELIALS
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	1-465-801-11	REMOTE COMMANDER (RM-S703) (F333ESL/F770ES(BLACK)/F870ES(BLACK))	
	1-465-801-21	REMOTE COMMANDER (RM-S703)	
	3-753-600-11	MANUAL, INSTRUCTION	
	3-753-600-41	MANUAL, INSTRUCTION	
	3-753-601-11	MANUAL, INSTRUCTION (GERMAN) (Germany:F870ES)	
	4-847-802-00	SCREW (AEP, E, Germany)	
*	4-931-954-01	CUSHION	
*	4-945-279-01	INDIVIDUAL CARTON (F770ES)	
*	4-945-280-01	INDIVIDUAL CARTON (F333ESL)	
*	4-945-282-01	INDIVIDUAL CARTON (F870ES)	

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HARDWARE LIST

#1	7-682-148-15	SCREW, TR
#2	7-682-546-09	SCREW, +B 3X5, PAWL
#3	7-682-547-09	SCREW +BVTT 3X6 (S)
#4	7-682-548-09	SCREW +B 3X8
#5	7-682-549-04	SCREW +B 3X10
#6	7-682-668-09	SCREW +PSW 4X30
#7	7-683-255-58	SET SCREW 5X6 HEXAGON SOCKET
#8	7-684-024-04	N 4, TYPE 2
#9	7-685-153-19	SCREW +P 3X30 TYPE2 SLIT
#10	7-685-234-19	SCREW +KTP 2.6X8 TYPE2NON-SLIT
#11	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#12	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT
#13	7-685-650-79	SCREW +BVTP 3X16 TYPE2 SLIT
#14	7-688-004-02	W 4, SMALL